

MacWEEK

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Apple shows off scripting system, seeks support for open standard

By Raines Cohen

San Francisco — Apple briefed 50 key developers here last month on AppleScript, its long-awaited user scripting system. Although it will be many months before users get their hands on the system, Apple is encouraging developers to build support for it and other scripting environments into applications now under development.

Macintosh-based scripting will offer much more power than the batch scripts familiar to DOS users. In addition to executing

many basic file-management and operating system tasks, scripts will let Macintosh users call on individual functions in scripting-aware applications while running other programs.

Since developers will be able to use scripts to define what menu commands in their applications do, users will be able to customize off-the-shelf software simply by modifying the scripts.

Eventually, users will even be able to combine and customize the functions of multiple applications

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Pen, voice will shape interface

Nagel demonstrates input technologies

By Andrew Gore

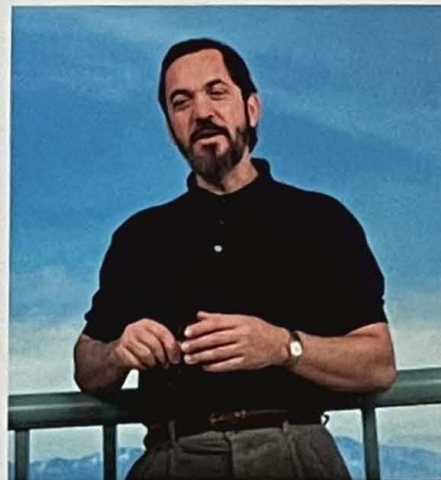
Palm Springs, Calif. — Users who've dreamed of telling their Mac off, or on, could get the chance sooner than expected.

In a technology preview at Demo '92 here last week, David Nagel, senior vice president of Apple's Advanced Technology Group, used both voice and a pen to pilot a Quadra 900.

The demonstration was intended as a "sneak preview" of where interface technologies could go in future Macs and other products from Apple, Nagel said in an interview with MacWEEK.

Because the Mac interface has turned out to be surprisingly flexible, it will be possible to build these new input methods into Macs in the not-too-distant future, Nagel said. But the combination of voice and pen with intelligent agents running in the background will eventually allow Apple to create a different interface paradigm, one as revolutionary as the original Mac, he said (see related story, below).

► **Hearing voices.** Code-named Casper, Apple's speaker-independent voice-recognition system was demonstrated on a Quadra 900 enhanced with a digital signal processor (DSP) and a higher-quality



JAMES ARNDT/STOCK PHOTO GROUP

David Nagel, senior vice president of Apple's Advanced Technology Group, demonstrated technology that will integrate voice recognition and pen input.

microphone offering than the microphones Apple currently bundles. Both the DSP chip and the new microphone are likely to be incorporated into a new Quadra model by year-end, sources said.

Casper currently has a vocabulary of more than 100,000 words. According to Nagel, a version with a smaller

vocabulary could run on a platform with less processing power than a Quadra.

Unlike existing micro-computer-based voice-recognition systems, such as Articulate Systems Inc.'s Voice Navigator II, Casper does not need to be trained to recognize its user's voice. Apple designed its system by sampling hundreds of different voices in a wide range of accents, tones and pitches.

To pilot Casper, users simply tell their Macs what to do. In Nagel's demo, Casper pilot and principal engineer Robert Strong said, "Program my VCR," causing a VCR control panel to come up on the

Quadra's screen. He then said, "Record Channel 5 tonight from 5 to 7 p.m.," and Casper entered the event into the VCR's program log.

Other more typical Casper uses could include direct access to nested menu items, opening and closing windows on the desktop, or search-

See *Nagel*, Page 98

Developers open Windows first

By Jon Swartz

San Francisco — With the release of Windows 3.1 on the horizon, it's no surprise DOS developers are scrambling to bring compatible products to the market.

What is turning heads, however, is the reaction of Mac developers, who once snubbed their noses at

DOS technology but now are jumping on the Windows bandwagon.

According to industry observers, nearly every major software developer is devoting more time and money to Windows development, based on the larger Windows market and user demand (see related story, Page 95).

"All the interesting apps used to come first on the Mac, then go to Windows. Now every productivity package is debuting on Windows," said Jeffrey Tarter, editor of *SoftLetter* in Watertown, Mass. "The Mac is becoming an afterthought."

See *Windows*, Page 99

SuperMac slices display prices

By Neil McManus

Sunnyvale, Calif. — Taking a cue from Apple's price cuts, SuperMac Technology this week will announce price reductions of up to 40 percent on its high-end color graphics boards and monitors.

SuperMac's price cuts affect more than a dozen products, including accelerated 24-bit-color boards, eight-bit-color boards, digital video cards and large-screen color displays. For example, the SuperMac Thunder/24 board will drop to \$3,499 from \$4,999, the Spectrum/8•24 card will be cut to \$999 from \$1,399, and the SuperMatch 20 Color monitor price will fall to \$1,999 from \$2,800.

"A lot of people are looking for accelerated color graphics, and these price cuts will let them afford some top-of-the-line boards," said Mills Davis, a graphic arts research consultant in Washington, D.C.

Resellers cautioned that street

See *SuperMac*, Page 100

Apple to pump up the volume

Price cuts extend to PowerBook 100s

By Carolyn Said

Cupertino, Calif. — Apple this week is expected to trim prices for Macs on the road as well as on the desktop. The company will cut prices for PowerBook 100s by

about 12 percent, sources said.

In addition, Apple reportedly will slash the price of the StyleWriter, its 360-dpi inkjet printer, by a third.

As reported last week, Apple plans dramatic price cuts for all its low-end to midrange desktop Macs.

The anticipated move generated enthusiasm from dealers and analysts. "I think we'll move a lot more volume

See *Price cuts*, Page 98

PowerBook 100s hit new low

PRODUCT	CONFIG.	OLD PRICE	NEW PRICE	EST. STREET PRICE
PowerBook 100	2/20 no floppy	\$2,299	\$1,999	\$1,599
PowerBook 100	2/20 with floppy	\$2,499	\$2,199	\$1,749
PowerBook 100	4/40 no floppy	(new model)	\$2,399	\$1,999
PowerBook 100	4/40 with floppy	(new model)	\$2,599	\$2,249

Agents to run handheld devices

By Andrew Gore

Cupertino, Calif. — A handheld machine and a radically new operating system for it will be the wedge that enables Apple to penetrate the consumer-products market, according to sources.

The new hardware and software, both code-named Newton, reportedly will be as different from the Mac as the Mac was from DOS. The system will rely on voice and pen for input and intelligent software agents to process the input.

David Nagel, senior vice president of Apple's Advanced Technology Group, wouldn't comment on the Newton project, but last week acknowledged that Apple considers the intelligent-agent technology critical for any system based on pen and voice.

"To make speech-recognition work as an integral part of an interface," he said, "you not only have to have a language model — you have to have a behavior model." Handheld electronic assistants, such as those Apple CEO John Sculley recently promised, need to use

speech recognition because it doesn't require scarce screen space, he said.

But a language-based system needs a way to adapt itself to the way

See *Agents*, Page 100

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NetWare software routers offer mix-and-match protocols

By Margie Wylie

Provo, Utah — Following the form of Apple's Internet router, Novell Inc. last week announced a software-only multiprotocol router that will support AppleTalk and run on a standard Intel-based computer.

Due later this month, the \$995 NetWare Multi-Protocol Router v1.0 consists of several NetWare loadable modules (NLMs) plus NetWare Runtime v3.11, the fast operating system at the heart of NetWare's file and print server. Because the kernel is included, the Router can be used on non-NetWare networks.

It will support any combination of

Novell IPX, EtherTalk, token-ring, TCP/IP, LocalTalk and ARCnet protocols, depending on which NLMs are loaded. Users will be able to add new NLMs as they are developed.

Novell also announced several more applications, including a SQL server, based on the new network operating system kernel, which allows users to run network services on machines other than the Intel-based NetWare server while retaining high performance.

Novell Inc. is at 122 East 1700 South, Provo, Utah 84606. Phone (801) 379-5900 or (800) 526-5463; fax (801) 429-5155. □

Bug-bitten users retrieve lost files

By Dartanian L. Brown

San Francisco — If you've been a victim of the System 7 bug and lost sight of some of your files, you can breathe easier now — provided you haven't already reformatted your drive and re-created your data.

Users have discovered several ways to recover from the bug, which can cause System 7 users' files to disappear from the desktop (see MacWEEK, Jan. 27).

One fix involves renaming Desktop DB and Desktop DF, two System 7 files that are normally invisible but can be renamed and made visible with utilities such as DiskTop from CE Software Inc. of West Des Moines, Iowa, or the Norton Disk Editor, part of Cupertino, Calif.-based Symantec Corp.'s Norton Utilities for Macintosh. When the Mac is restarted, the Desktop files

are rebuilt, making the lost documents reappear. In some cases users also may need to repair additional damage with a disk-repair utility such as Norton Disk Doctor.

A simpler solution involves using Desktop Reset, a system extension included with the AutoDoubler and DiskDoubler compression utilities from Salient Software Inc. of Palo Alto, Calif. Desktop Reset gives users a way to regenerate the Desktop files, revealing any missing files.

"We wrote Desktop Reset to make it easier to rebuild the desktop," said Salient President Terry Morse. "It's pretty nice that it fixes this other problem. We hadn't even heard about it at the time."

If the disappearing-file problem becomes more widespread, Morse said, Salient may consider releasing Desktop Reset for free distribution. □

CBS uses Quadra 700 in news call-in broadcast

Omaha, Neb. — A Quadra 700 played a graphical role in CBS' live call-in news special, "America on the Line," aired after President Bush's State of the Union address last Tuesday.

More than 314,000 viewers called in to voice their opinions on the U.S. economy and other issues. Call Interactive, the 800-line telecommunications company here that handled the calls, recorded touch-

tone responses into a database on a Sun SPARCstation. The data was then flowed into an Informix Wingz spreadsheet on a networked Quadra to create a dynamic map showing the volume of calls from each state.

The map was output to NTSC (National Television System Committee) video using Truevision Inc.'s NuVista+ video graphics card and broadcast several times during the live CBS show. □

This map was created in Informix Wingz and broadcast repeatedly on last week's live CBS news special, "America on the Line." Each push-pin on the map represents 1,000 viewer calls from a state.



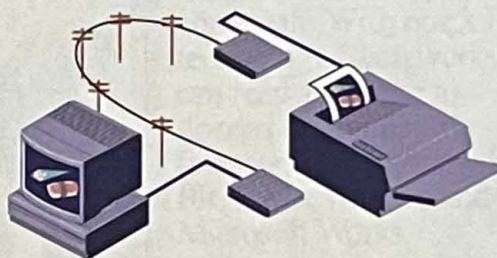
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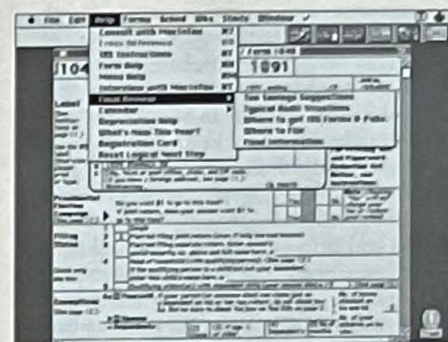
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Claris cuts MacWrite II price by almost half

By Henry Noy

Santa Clara, Calif. — Claris Corp. last week cut the price of MacWrite II, its flagship word processor, by almost 50 percent. The program is now \$129, down from its previous price of \$249.

MacWrite Pro, a major upgrade announced last spring and now scheduled for release this summer, will be priced at \$249, the company said.

U.S. customers who purchased MacWrite II between April 1 and Sept. 30, 1991, will be eligible for a free upgrade to MacWrite Pro, as will customers who bought a retail copy, not part of any bundle deal, between Oct. 1, 1991, and Jan. 30. Customers who buy MacWrite II after Feb. 1 will be able to upgrade for \$69.

Claris said last week's price cut was designed to reposition MacWrite II to appeal to price-sensitive buyers of new Mac models such as the PowerBooks and Classics. The product faces increased competition from new integrated products offered by Claris itself and other vendors, as well as from Microsoft Word and WordPerfect; those two programs, both priced at \$495, now incorporate System 7 features such as publish and subscribe, which MacWrite II does not support.

Claris Corp. is at 5201 Patrick Henry Drive, Box 58168, Santa Clara, Calif. 95052. Phone (408) 727-8227. □

Level 2 clone in pipeline; another destined for fall

By Matthew Rothenberg

Milpitas, Calif. — Destiny Technology Corp. and Pipeline Associates Inc. have joined the ranks of developers promising PostScript Level 2-compatible interpreters.

► **Destiny**, based here, last week unveiled the PageStyler II, which the company said will be incorporated into printers slated for introduction next fall. According to Destiny, at least a dozen of the companies that use Destiny's current Level 1 emulator have committed to the Level 2 technology. Destiny provides technology to Texas Instruments Inc., NEC Technologies Inc., Star Micronics America Inc. and Tokyo Electric, among others.

Destiny said its emulator would provide all Level 2 features, including JPEG (Joint Photographic Experts Group) compression and decompression, device-independent color, composite font handling and built-in font rendering.

► **Pipeline**, based in Morris Plains, N.J., is preparing its own Level 2 offering. According to Pat Wood, vice president of research and development, the company will show a "90 percent complete" version of its Level 2 emulator at this month's Seybold Seminars in Boston. Wood said the company will try to ship the emulator to printer vendors by March so they can begin shipping in May or June.

According to Wood, Mitsubishi Electronic America Inc., General Parametrics Corp. and Ilford will incorporate the new Pipeline emulator. "I would expect that most of our black-and-white laser printer customers will switch sooner or later," he said.

The Destiny and Pipeline offerings follow an announcement by Phoenix Technology Ltd. that it will release a Level 2 interpreter in the spring. Only a handful of Level 2 devices have hit the market so far (see related story, Page 5). □

Apple, Sharp quiet on reported deal

By Jon Swartz

Cupertino, Calif. — Apple and Sharp Corp. officials declined to comment last week on a Wall Street Journal report about possible cooperation between the companies.

The Jan. 28 story, quoting a Sharp spokesman, said the \$10 billion Japanese company may sell Macs in Japan, marking the first

time Sharp has considered a far-reaching agreement with a U.S. computer company. The spokesman, however, reportedly denied that any agreement had been reached.

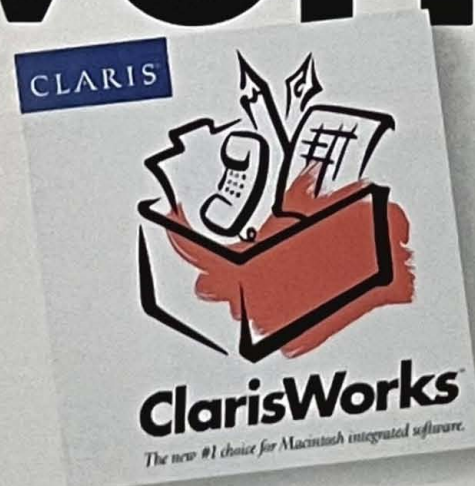
Apple spokesman Christopher Escher said the company has discussed collaboration with a number of consumer-electronics companies, but refused to provide details. Apple CEO John

Sculley last month announced that in 1993 the company, in conjunction with third parties, will introduce a series of handheld computing products it calls Personal Digital Assistants (PDAs). Sharp's Wizards are major players in the market for electronic personal organizers.

The Japanese daily Sankei Shimbun, according to the Journal report, last week cited multimedia and display technology as other areas of possible collaboration.

Sharp is a leader in development of color active-matrix displays. □

Anything else is just work.



Productivity apps play on pen systems

By Raines Cohen

Palm Springs, Calif. — With pen-based computing looming on the Mac horizon and already at hand for other platforms, productivity applications designed for the new technology are beginning to surface.

► **Spreadsheet.** Slate Corp. of Scottsdale, Ariz., showed Slate At-Hand, a spreadsheet

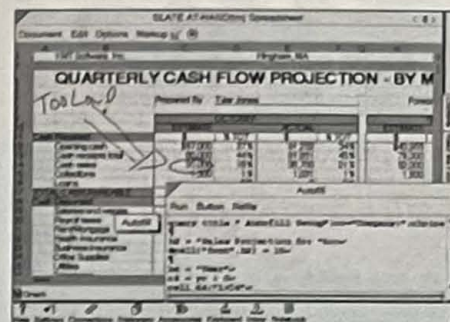
designed for pen-based computers running GO Corp.'s PenPoint operating system, at last week's DEMO '92 conference here. The application was developed under the direction of Dan Bricklin, one of the authors of VisiCalc, the first electronic spreadsheet.

The \$295 Slate At-Hand, due this May, supports ink as a data type, so users can annotate

cells and charts just by writing on them. Gestures can trigger spreadsheet commands; for instance, selecting two cells and writing a plus sign will calculate the sum of the cells.

The program incorporates standard spreadsheet features as well, including a scripting language, 3-D charting, and the ability to read and write Lotus 1-2-3 and Microsoft Excel files.

► **PIM.** PenSoft Corp. of San Mateo, Calif., is reportedly developing an as-yet-unnamed personal information manager



Slate At-Hand, Slate's new pen-based spreadsheet for computers running GO's PenPoint, lets users write directly on spreadsheets to annotate cells and trigger calculations.

This is exactly the way you wanted Macintosh to be.

The power to effortlessly create documents with words, graphics, spreadsheets, and charts. Without running your mouse through a maze of modules.



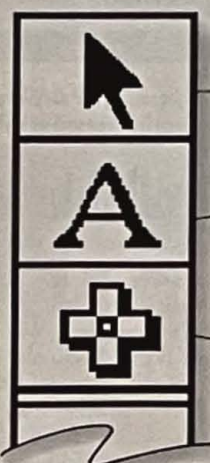
ClarisWorks pulls out all the stops with a level of integration that's finally seamless.

Finally, all this functionality is immediately available on the screen in one application. Rather than a bunch of mini-applications, thinly glued together.

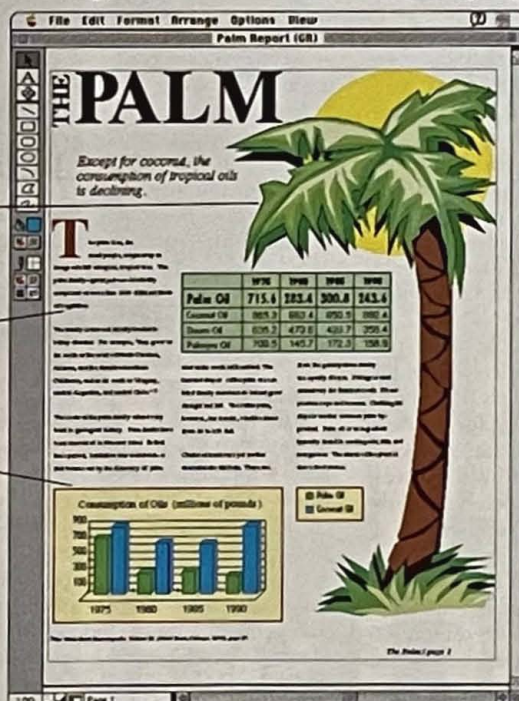
A level of integration

you could

justifiably call a genuine breakthrough.



From within a text document, you can click on the graphics tool and start drawing. Or click on the spreadsheet tool and create a spreadsheet right in the middle of your document. Whatever tool you select, its menu bar appears at the top.



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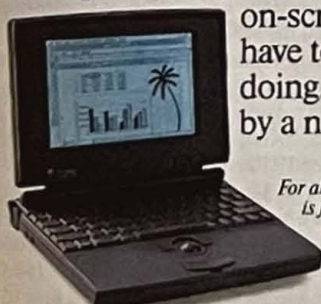
Last, but certainly not least, ClarisWorks is a program you can build on.

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Though we simply call it ClarisWorks.

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that automatically can create connections between many different pieces of data, sources said. Users can view information by day, person or topic. Entries on one page are linked to other pages when a connection is recognized. Objects such as spreadsheets can be included as well. The company declined to comment.

Pen-based computing has been marketed to date as a platform for vertical applications aimed at out-of-the-office workers such as shipping clerks and salespeople. Industry observers said the advent of productivity applications will help pen systems move into more-horizontal markets. □

TI pushes microLaser line up to PostScript Level 2

By Matthew Rothenberg

Austin, Texas — Texas Instruments Inc. has expanded the selection of Adobe PostScript Level 2 printers with two new RISC (reduced instruction set computing)-based models.

The 9-page-per-minute microLaser Turbo and the 16-ppm microLaser XL Turbo are available now for \$2,249 and \$3,649, respectively. Both 300-dpi printers include automatic switching between PostScript Level 2 and Hewlett-Packard LaserJet II emulations.

The new microLasers are built around a 16-MHz Weitek 8220 coprocessor and a 12-MHz Motorola 68000 chip on the main controller board. They ship with 2.5 Mbytes of RAM, which can be expanded to 10.5 Mbytes; 35 Type 1 fonts; and a Centronics parallel interface. AppleTalk is not built in, but users can purchase AppleTalk, RS-232 and RS-422 interfaces as a \$100 package or those three interfaces plus a SCSI port as a \$232 package. The printers feature automatic switching between ports.

Both printers can output paper or transparencies in sizes such as letter, legal, A4 and B5. Each ships with a 250-sheet input feeder, and users can buy a second 250-sheet feeder for the microLaser Turbo for \$275 or a 500-sheet input feeder for the microLaser XL Turbo for \$345.

Owners of TI's microLaser can upgrade to the microLaser Turbo and owners of the microLaser XL printers can upgrade to the microLaser XL Turbo for \$1,250.

The printers join other PostScript Level 2 printers from Apple, Dataproducts Corp., Tektronix Inc. and NEC Corp. Several developers are preparing Level 2 clones (see story, Page 4). The printers won't be able to take advantage of Level 2 features, such as compression and improved forms handling, until this spring, when new drivers are expected from Apple and Adobe Systems Inc.

Texas Instruments Inc. is at 12501 Research Blvd., Austin, Texas 78769. Phone (800) 527-3500. □

ComNet looks to broadband future

Wireless handsets to deliver remote data

By Mitch Ratcliffe

Washington — Fast broadband nationwide networks will appear this decade, according to companies and analysts at ComNet '92, held here last week.

Demonstrations focused on applications that will use new technologies to enable video teleconferencing, radio frequency messaging, 100-Mbps and faster fiber-optic networks, and data sharing through digital telephone technologies.

Keynote speaker George Heilmeier, president and CEO of Bellcore, the research arm of the seven regional telephone companies, outlined a new industry that will give users universal access through tele-



Compression Labs was one of a handful of Mac vendors at ComNet '92, showing its Cameo Personal Video System Model 2001 for the Macintosh. The Mac had a high profile during conference sessions.

phone lines to large hypertext databases, entertainment such as films or books, and multimedia educational programs.

"We'll see emphasis on pocket-size wireless handsets on the one hand and handheld wireless computers on the other," Heilmeier said.

Ericsson GE shows off wireless modem

By Mitch Ratcliffe

Washington — A rival developer of wireless communications equipment last week threw down the gauntlet to Motorola Corp.

The Mobidem Portable Wireless Modem from Ericsson GE Mobile Data Inc. will allow computer users to send electronic mail, reminder messages and small data files across a private national packet radio network.

Motorola last month announced a modem that will give Mac users access to ARDIS, the nationwide Motorola-IBM Corp. packet-switched wireless network (see MacWEEK, Jan. 20).

At last week's ComNet '92 show here, Mobidem showed a \$1,795 IBM PC-compatible version of its device. The company said a

Macintosh version is due this fall.

Mobidem requires connectivity with the RAM Mobile Data Mobitex network, a service offered in 20 cities by RAM Mobile Data Inc. of Paramus, N.J. The network supports 900-MHz packet radio with throughput of about 4,800 bps. Users will be billed 12.5 cents for each 512 characters sent through the Mobidem, according to Ericsson GE.

In addition, the RAM network can store 10 messages when Mobidem is switched off or out of the broadcast range of a broadcast node.

Mobidem itself can save 8 Kbytes of message files. It includes a rechargeable NiCad battery that offers up to 12 hours of service when the modem is set to express mode, which powers down the unit after 10 seconds of idle time. The company said the Mobidem will exhaust the battery after four hours of continuous use.

A number of gateways to computer platforms and E-mail services will be available with the Mobidem. Anterior Technology of Menlo Park, Calif., said it plans to provide a gateway from CE Software Inc.'s QuickMail to the Mobidem software for the Mac. The company said it will offer the service on a monthly basis for between \$100 and \$120.

Ericsson GE also offers a \$1,990 Mobidem model that can be installed in an automobile.

Ericsson GE Mobile Data Inc. is at 740 E. Campbell Road, Richardson, Texas 75081. Phone (214) 952-8800; fax (214) 952-8775. □



Mobidem Portable Wireless Modem, due this fall, will let Macs send electronic mail, reminder messages and data files.

Take a first-class vacation on Nest when you pick up low-cost MacQuill

By Henry Norris

San Jose, Calif. — MacQuill, a new low-cost word processor and layout package, is scheduled to leave its nest this month, and its publisher plans to give it a grand send-off by offering buyers a free four-day stay in a first-class resort.

Published by software start-up Nest Inc., the program will carry a suggested retail price of \$149 but will be available at an introductory price of \$99 for 90 days after its release.

Features include frame-based page design, linked columns and pages, master pages, color graphics support, user-defined paragraph-level style sheets, a glossary function, a spelling checker with customizable dictionary, print-merge capabilities, support for sidenotes and endnotes, and a search-and-replace function that can locate text by a variety of attributes, according to the company.

In a new twist on software marketing, customers who buy MacQuill direct from Nest within 90 days, then mail in the registration card

and a disk containing a document created with the program, will receive a certificate entitling them to four days' free accommodation at specified first-class hotels in one of the following resort areas: Palm Springs, Calif.; Las Vegas; Fort Lauderdale or Orlando, Fla.; or Hilton Head Island, S.C.

"It's a \$650 value — no seminars, no timeshare pitches, no gimmicks," said Nathan Schulhof, Nest vice president. A \$39 registration fee at the hotels is required.

Nest Inc. is at 2107 N. First St., Suite 400, San Jose, Calif. 95131. Phone (408) 441-1944 or (800) 524-3315; fax (408) 441-0724. □



MacQuill, a low-cost word processing and desktop publishing package, will include advanced features such as style sheets.

Sony ships Mac-controllable VCR

By Neil McManus

Park Ridge, N.J. — Sony Corp. of America last week shipped its Vdeck Hi8 Computer Video Drive, a frame-accurate videocassette recorder that can be controlled through the Mac's serial port.

Available for \$2,295, the Vdeck drive supports Sony's platform-independent VISCA (Video System Control Architecture) protocol, which lets Macs control up to seven video devices simultaneously. Hi8 offers 400-line resolution.

The Vdeck also reads and writes RC Time Code (Sony's new standard for consumer devices), allowing it to do fully frame-accurate searches.

"The Vdeck gives me perfect edits every time," said Kirby Carmichael, a producer at Buzzword Multimedia in Pacifica, Calif., who uses the Vdeck to create instructional and promotional videos. "You need frame-accurate control, especially when you're working with animations."

The Sony drive also lets users record or dub narration or music onto an independent PCM (Pulse Code Modulation) digital audio track, without erasing stereo audio already recorded on the tape.

Several Mac applications can control the Vdeck directly, including Macromind-Paracomp Inc.'s

MediaMaker and HSC Software's upcoming VideoWare.

Sony's new deck will compete against NEC Technologies Inc.'s NEC PC-VCR, a \$2,195 S-VHS device (see MacWEEK, Nov. 12, 1991).

Sony also recently shipped its Vbox, a \$399 device that lets Mac users connect and control Sony 8mm consumer video products.

Sony Corp. of America is at Sony Drive, Park Ridge, N.J. 07656. Phone (201) 930-6432. □

For the Record

The review of Mirror Technologies Inc.'s Mirror 600 Color Scanner in the Jan. 27 issue incorrectly stated that Mirror bundles Adobe Photoshop LE, a "light" version of Photoshop, with the scanner. Mirror has offered the full version of Photoshop with the scanner since October.

The Jan. 27 issue incorrectly reported that upgrades to Microlytics Inc.'s Word Finder Plus are free. Actually, users can upgrade for \$19.95.

The Jan. 13 issue reported Software Ventures Corp.'s sidegrade offer to let users of competing telecom packages switch to MicroPhone II 3.0 for \$49.95. That offer expired Jan. 15.

Which Comes First...

Dual Page Monochrome Display with Video Card
Screen size (flat) — 19 inch diagonal
Resolution — 74 DPI WYSIWYG (same as Apple Two Page)
Vertical Refresh Rate — 75 Hz

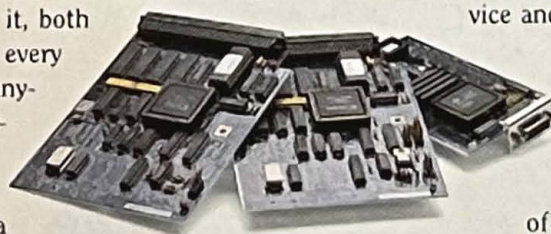
Full Page Monochrome Display with Video Card
Screen size (rounded) — 15 inch diagonal
Resolution — 80 DPI WYSIWYG (same as Apple Portrait)
Vertical Refresh Rate — 75 Hz (same as Apple Portrait)

Full Page Gray Scale Display (256 shades) with Video Card
Screen size (flat) — 15 inch diagonal
Resolution — 80 DPI WYSIWYG (same as Apple Portrait)
Vertical Refresh Rate — 75 Hz (same as Apple Portrait)



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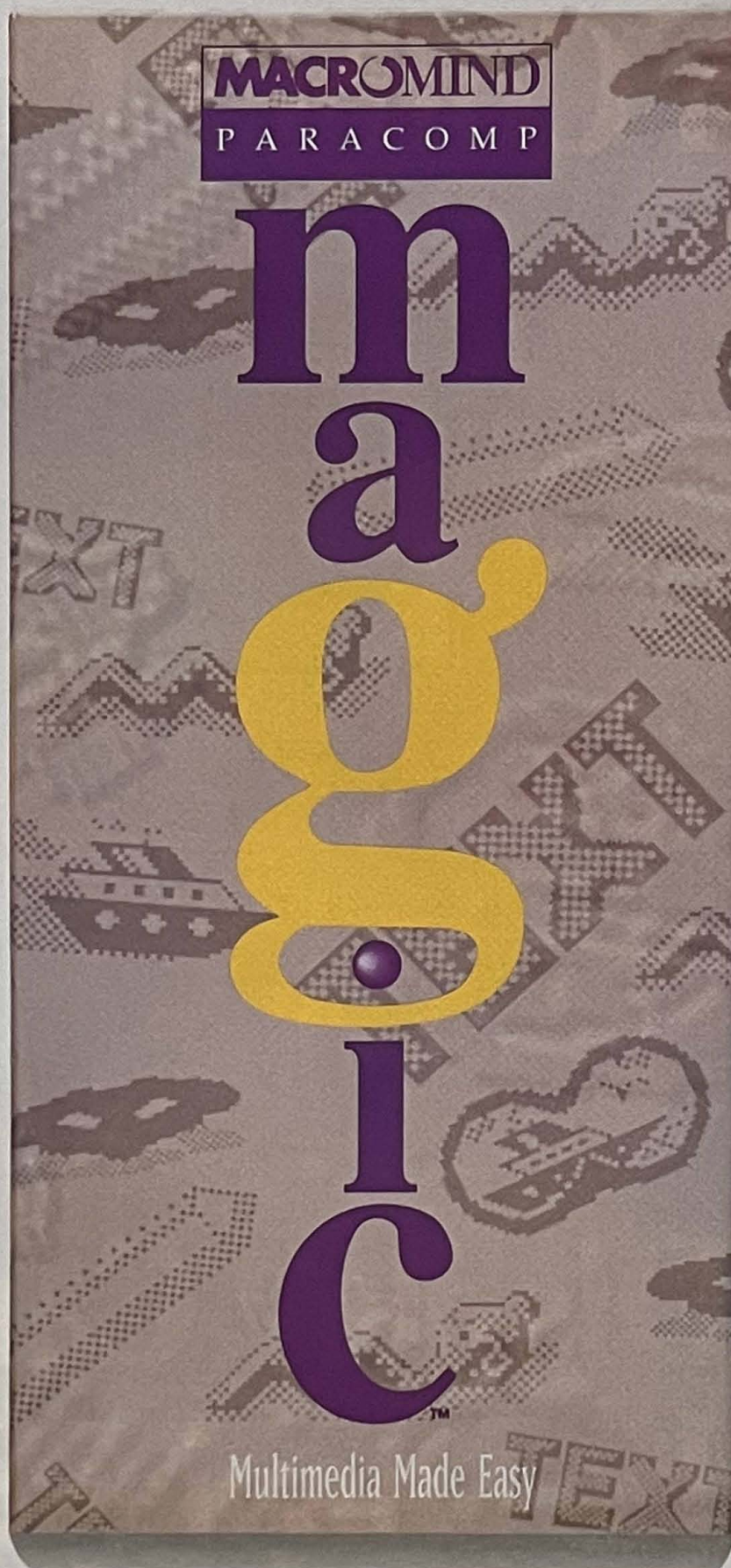
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Welcome to multimedia.

Mirror drives down cost of large-screen color

By Neil McManus

Roseville, Minn. — Mirror Technologies Inc. has driven down the cost of large-screen color by shipping a 20-inch color display bundled with an eight-bit graphics board for \$1,899 or with a 24-bit card for \$2,499.

In contrast, most competing monitors sell for about \$3,000 without graphics cards.

Mirror's ProView V display systems are based on a Hitachi monitor, which offers a resolution of 1,024 by 768 pixels at 72 dpi. The monitor comes with front-mounted control knobs, an anti-glare screen and a tilt-and-swivel base.

The eight-bit display system, which provides 256 colors, is compatible with the Mac SE/30, LC, II series and Quadras. The 24-bit system, which offers 16.7 million colors, works with the Mac II series and Quadras. Both systems come with Mirror software that gives users the option of pop-up menus and enlarged cursors and menu bars.

The recent push for low-price color began last month, when Micro Business Solutions Inc. of Conroe, Texas, released a 19-inch Trinitron display bundled with an eight-bit card for \$1,895 or with a 24-bit board for \$2,895 (see MacWEEK, Dec. 3, 1991).

Mirror Technologies Inc. is at 2644 Patton Road, Roseville, Minn. 55113. Phone (612) 633-4450; fax (612) 633-3136. □

Olduvai enhances Read-It! training, adds word processor and batch mode

By Matthew Rothenberg

South Miami, Fla. — Olduvai Corp.'s Read-It! O.C.R. Pro has turned a new page with an upgrade that spells new features and enhanced accuracy.

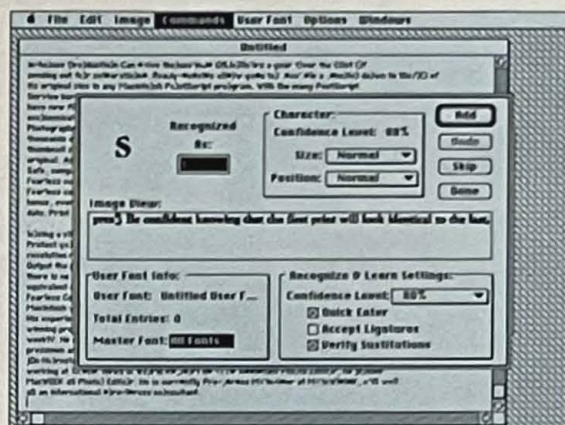
To ship in the second quarter for \$595, Read-It! O.C.R. Pro Version 4.0 adds a redesigned trainable mode that uses feature-extraction technology to recognize unfamiliar fonts or foreign alphabets, as well as a pop-up verification window that displays suspect words.

The upgrade also includes:

► **A word processor** for editing recognized text. It supports an unlimited number of fonts, styles and sizes in a single document, which can be any length.

► **New dictionaries**, including ones from Microlytics Inc. that Olduvai said increase the accuracy of its own ReadSpell engine. New Spanish, French, German and Italian dictionaries will be available from Olduvai for \$129 each, the company said. Users of Version 4.0 also can create their own customized dictionaries of specialized terms.

► **A batch-processing mode** that allows users to recognize an unlimited



Olduvai's Read-It! O.C.R. Pro Version 4.0 adds a trainable mode and a pop-up verification window that displays suspect words or characters.

number of TIFF files stored on disk.

► **Interface improvements**, including a One Click Recognition button that lets users recognize documents directly from the Open dialog box and new buttons that control window views.

Like earlier versions of the program, Read-It! O.C.R. Pro 4.0 requires just 1 Mbyte of RAM. The upgrade also supports System 7's publish and balloon help features.

Registered users of Read-It! O.C.R. Pro Version 3.x will be able to upgrade for less than \$100, the company said.

Olduvai also announced that it was preparing Version 4.0 of Read-It! O.C.R. Personal, a stripped-down version of the software aimed at users of handheld scanners. Read-It! O.C.R. Personal 4.0 also will ship in the second quarter for \$295, and current users will be able to upgrade for less than \$50.

Olduvai Corp. is at 7520 Red Road, Suite A, South Miami, Fla. 33143. Phone (305) 665-4665; fax (305) 665-0671. □

PSI puts modems on bus, ships network upgrade

By Nathalie Welch

Campbell, Calif. — PSI Integration Inc. is speeding along in the fax-modem market.

The company last month announced a new high-speed external fax-data modem, as well as two internal fax modems, both of which let users receive faxes even when their Macs are turned off. PSI also shipped an upgrade to transform its stand-alone fax modems into network devices.

► **COMstation Five**, priced at \$899, will ship next week. The external modem incorporates the recently approved CCITT V.17 standard for 14.4-Kbps fax and supports V.32bis for a base speed of 14.4-Kbps data transmission. Support for V.42bis and MNP Level 5 enables data throughput reaching 57.6 Kbps.

► **NuCOM Force**, a NuBus card, supports V.17 for 14.4-Kbps fax and V.32bis for 14.4-Kbps data transmission. Support for V.42bis and MNP Level 5 enables throughput reaching 57.6 Kbps. The board is due next month for \$899.

► **NuCOM Edge**, also a NuBus modem, is capable of 9,600-bps fax with base data transmission of 2,400 bps. Support for V.42bis and MNP Level 10 enable data transmissions reaching 9,600 bps. It will ship next month for \$399.

STF Technologies Inc.'s FAXstf fax software is bundled with all three new models.

► **Network Upgrade**. PSI recently shipped a \$299 dealer-installable Network Upgrade to its stand-alone COMstation One, Two and Five modems. COMstation One and Two have speeds of 9,600 bps for fax and 2,400 bps for data, but the COMstation Two supports V.42bis, allowing 9,600-bps data throughput.

With the Net Upgrade installed, users can send faxes from any computer on an AppleTalk or Ethernet network. The data modem can be accessed only by the system administrator, who also is responsible for distributing incoming faxes.

PSI Integration Inc. is at 851 E. Hamilton Ave., Suite 200, Campbell, Calif. 95008. Phone (408) 559-8544; fax (408) 559-8548. □

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GCC stretches UltraDrive line to 1.3 GB

By Dartanyan L. Brown

Waltham, Mass. — GCC Technologies Inc. this week will add five internal and two external hard drives to its UltraDrive series for the Macintosh.

The new lineup includes 240-Mbyte models with a low-profile 3.5-inch Quantum mechanism, a 420-Mbyte drive with a standard 3.5-inch Seagate mechanism and higher-capacity models with full-height 5.25-inch Seagate mechanisms. Access times for the 240-, 420- and 650-Mbyte and 1-Gbyte models are between 14 and 15.5 milliseconds, while the 1.3-Gbyte models, with the 5,400-rpm Seagate Elite mechanism, are rated at 11.5 milliseconds.

The front panel of the 1.3-Gbyte external model has a write-protect switch, a backlit LCD displaying the SCSI ID, and a push-button control for switching the unit's solid-state termination on and off.

All UltraDrives will ship with Version 7.2 of GCC's DriveManager software, a new release that provides Quadra compatibility. Central Point Software Inc.'s MacTools Deluxe also is included.

GCC Technologies Inc. is at 580 Winter St., Waltham, Mass. 02154. Phone (617) 890-0880; fax (617) 890-0822. □

New additions to GCC UltraDrive line

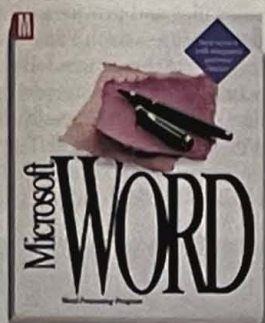
MODEL	MACS	CAPACITY	MECHANISM	PRICE
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240Si	All Macs	240 Mbytes	3.5" Quantum	\$1,129
420Si	IIcx, IIci, Quadra 700	420 Mbytes	3.5" Seagate	\$1,999
650Xi	Quadra 900	650 Mbytes	5.25" Seagate	\$2,499
1000Xi	Quadra 900	1.0 Gbytes	5.25" Seagate	\$3,349
1300Xi	Quadra 900	1.3 Gbytes	5.25" Seagate	\$4,999
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1300X	All Macs	1.3 Gbytes	5.25" Seagate	\$5,299



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Microsoft

Office Wiz! manages time, client projects

By April Streeter

San Francisco — To help service organizations keep track of their clients and projects, Oryx Associates now offers Office Wiz! office-management software.

Based on ACIUS Inc.'s 4th Dimension database, the multi-user application lets users record all information for a project, such as clients, outside contractors, time and status. A single-user copy costs \$695.

In addition, the program's networked daily calendar, which is organized by project and by user, can be set up to provide advanced notification of important dates.

"If you miss a statute date, you're getting into a malpractice area. Calendaring gives us automatic reminders," said Helen Cavin, office manager for the San Francisco law firm Lyle J. Cavin. "Along with Word, [Office Wiz!] is the only program we use on a day-to-day basis."

Office Wiz! also will generate invoices and accounting statements based on users' recorded expenses and time spent on a project. And a rudimentary mail merge feature lets users generate form letters and fax cover sheets.

Other features include a built-in address book, a mailing-label generator, the ability to print checks, and the ability to customize reports and data-entry screens.

A networked version costs \$1,495 plus \$49 for each user.

Oryx Associates is at 1867 Union St., Suite B, San Francisco, Calif. 94123. Phone (415) 563-9971; fax (415) 563-0238. □

NightWatch II offers beefed-up security

By Mitch Retiche

Houston — An updated access-control and data-security package due this month from Kent•Marsh Ltd. promises to help users fortify their defenses against intruders.

NightWatch II, priced at \$159.95, features System 7 compatibility, new access options and improved password controls. A new diskless security mode lets users gain access simply by typing their name and a password; another new mode provides access directly upon insertion of a key disk, without entering a password. The original NightWatch required both a password and a key disk.

Password preferences offer more features in the new version. Administrators can now set expiration dates and minimum lengths, and the program is now case-sensitive.

NightWatch II also offers a built-in animated screen saver, user-specific write-protection of volumes, time and day access restrictions, support for attaching sounds to events such as locking and unlocking a disk, and a hierarchical master-key function that can be configured to give different override privileges to various managers.

Upgrades are free for users who bought NightWatch after Sept. 1, 1991; others will pay \$39.95.

Kent•Marsh Ltd. is at 3260 Sul Ross, Houston, Texas 77098. Phone (713) 522-5625 or (800) 325-3587; fax (713) 522-8965. □

Faster FYPlan takes on PC client

By Rochelle Garner

Foster City, Calif. — Pillar Corp. announced last week new enhancements and DOS-client software for FYPlan, its budget-management software for large companies.

A \$19,500 starter package of FYPlan comprises server software and four Mac clients that simplify and speed the process of consoli-

dating multiple budgets (see MacWEEK, Dec. 3, 1991). The new version number, 1.2, describes both the Mac and all-new client software for IBM PCs and compatibles.

FYPlan for DOS and Windows provides a comprehensive set of macros that lets users of Lotus 1-2-3 for DOS and Windows distribute and perform all FYPlan commands. Final

budget consolidation is performed on the Mac, from either the server or the client application. Software is \$500 for each user.

Version 1.2 of the Mac client now produces smaller files and provides a new Optimize Distribute feature, which Pillar said performs calculations two to three times faster than the previous version. Server software now lets administrators assign privileges more easily, the company said.

Pillar Corp. is at 950 Tower Lane, Foster City, Calif. 94404. Phone (415) 349-6200; fax (415) 349-5515. □

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Thunderware plays OCR hand

By Matthew Rothenberg

Orinda, Calif. — Thunderware Inc. is taking optical character recognition in hand, bundling OCR software with its LightningScan line of handheld scanners.

Thunderware is now shipping Read-It! O.C.R. Personal 3.0 with its \$495 LightningScan 400 and \$359 LightningScan Compact

black-and-white scanners, as well as with its \$649 eight-bit gray-scale LightningScan Pro 256 (see MacWEEK, Sept. 10, 1991).

O.C.R. Personal 3.0, developed by Olduvai Corp. of South Miami, Fla., retails for \$295. Depending on the Mac processor, the program can recognize up to 120 characters per second, according to the company.

The LightningScan Pro 256 bundle also includes Enhance 2.0, the \$375 eight-bit gray-scale image-editing program from Micro-Frontier Inc. of Des Moines, Iowa.

All software bundled with the scanners, including Thunderware's Thunderworks, is System 7-compatible, the company said.

Registered LightningScan users can call Thunderware for upgrade information.

Thunderware Inc. is at 21 Orinda Way, Orinda, Calif. 94563. Phone (510) 254-6581; fax (510) 254-3047. □

SuperOffice picks up speed in new release

By Dartanyan L. Brown

Lexington, Mass. — SuperOffice Corp. expects this month to release a faster version of its sales-management software.

Originally based on Blyth Software Inc.'s Omnis 5 database, Version 2.02 of SuperOffice has been rewritten in C to provide better performance, the company said. It remains priced at \$395.

In addition, files created in Version 2.02 are binary-compatible with its Windows counterpart, the company said.

Other new features include:

► **Automated data entry.** All names and titles in the database now can be accessed from pop-up menus in forms-letter templates.

► **Schedule reconciliation.** The program will reconcile scheduling changes made by users in the field and in the office.

► **Word processor interchange.** The program now can read and write files in Word-Perfect format. In addition, mail merge can support 25 variables, including two programmable by the user, the company said.

A five-user license costs \$1,195; a 10-user pack is \$1,995. Upgrades are free.

SuperOffice Corp. is at 1 Cranberry Hill, Lexington, Mass. 02173. Phone (617) 674-1101; fax (617) 674-2970. □

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Bobker's Dozen Best, MacUser, December, 1990

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Microsoft opens new TDD phone lines for the deaf

Redmond, Wash. — Computer users with hearing disabilities often face a technological barrier when trying to get product or customer support. To help remove at least one such hurdle, Microsoft Corp. last week inaugurated telephone support services that use Telecommunications Device for the Deaf (TDD) modems.

The support technician at the other end will set up an appointment when someone qualified to answer the question will call back using Microsoft's TDD. The company promises to return calls within four business hours.

Product support calls are handled Monday through Friday 6 a.m. to 6 p.m. PST; customer service calls are 6:30 a.m. to 5:30 p.m. PST.

Microsoft Corp. is at 1 Microsoft Way, Redmond, Wash. 98052-6399. TDD Phone (206) 635-4948. □

Z-Nix airs cordless mouse

Pomona, Calif. — Z-Nix Company Inc. this month will ship its new cordless mouse.

The two-button Cordless Super Mouse, priced at \$129, can sense an infrared signal from up to six feet away from its receiver, according to the company. The receiver, which plugs into the Mac's Apple Desktop Bus, doubles as the mouse stand and houses the recharging pack. The internal battery can operate for eight hours of continuous use, the company said.

Z-Nix also is offering Cordless Super Mouse in a \$274 bundle with Symantec Corp.'s Norton Utilities for the Macintosh and in a \$234 bundle with Read My Lips, voice-annotation software from Praxitel Software Inc.

Z-Nix Company Inc. is at 211 Erie St., Pomona, Calif. 91768. Phone (714) 629-8050; fax (714) 629-4792. □

WordStar updates Correct Grammar

By April Streever

Novato, Calif. — WordStar International Inc. this month began shipping a new System 7-compatible version of Correct Grammar.

Version 3.0 of the \$99 grammar-checking application lets users customize its rules of grammar and style to reflect company standards. Via the Clipboard, users can now check

text generated in applications other than word processors, in many cases with styling intact.

Version 3.0 can be run from a network file server; additional user licenses are \$36.95.

Upgrades are \$29.95. DOS and Windows versions are also available.

WordStar also announced its own versions of three writing aids originally published by

Nova Development Corp. Due this spring for \$59.95, Correct Writing provides style guidelines culled from several references, including the Chicago Manual of Style and the Government Printing Office Style Manual. The \$49.95 Correct Letter DA will supply more than 100 standard business-letter templates. Correct Quotes, also \$49.95 purports to have "quotations for every occasion."

WordStar International Inc. is at 201 Alameda del Prado, Novato, Calif. 94949. Phone (415) 382-8000; fax (415) 883-1617. □

QMS set to hook up workgroup printing

By Matthew Rothenberg

Mobile, Ala. — QMS Inc. last week rolled out a 600-dpi PostScript laser printer that connects to workgroups across multiple networks.

The \$7,995 QMS-PS 1700 is built around a 17-page-per-minute Canon NX engine and uses a 25-MHz Intel 80960 RISC (reduced instruction set computing) processor. It prints up to legal-size paper, transparencies, envelopes or label stock at 600 dpi or 300 dpi, QMS said. The QMS-PS 1700 ships with 8 Mbytes of RAM, expandable to 16 Mbytes, and 45 Type 1 fonts.

The printer comes with LocalTalk, RS-232C serial and Centronics parallel ports. Optional cards support Ethernet with TCP/IP (\$1,995), DECnet (\$1,995) or Novell Inc.'s NetWare IPX (\$995). QMS said it will ship in the second quarter a \$995 EtherTalk board and a token-ring card with NetWare. Pricing for the token-ring card has not been set. Each interface card comes with a user-configurable input buffer, enabling the printer to receive data while another port is being used to print.

QMS offers both internal and external SCSI hard disk drives for the QMS-PS 1700; prices range from \$795 to \$1,195.

The printer automatically switches among its supported emulations: HP PCL Level 4, HP-GL 7550, CCITT Group 4 and LN03+/ANSI on the optional Ethernet/DECnet protocol card.

A PostScript Level 2 upgrade is due later this year.

The printer comes with two 500-sheet input cassettes, as well as one 500-sheet face-down and one 100-sheet face-up output bin. A \$695 duplexer provides double-sided printing.

In addition to the QMS-PS 1700, the company offers the QMS-PS 2000, a 20-ppm PostScript laser printer that supports tabloid-size pages (see MacWEEK, April 2, 1991).

QMS Inc. is at 1 Magnum Pass, P.O. Box 81250, Mobile, Ala. 36689-1250. Phone (205) 633-4300; fax (205) 633-0013. □

Tuesday XFCNs lift lid off Macintosh Toolbox

By Matthew Rothenberg

Santa Barbara, Calif. — Tuesday Software has opened the Mac Toolbox to HyperCard developers with a stack-based software package.

The Tbx System, available now for \$100, consists of a HyperCard 2.0 stack and two external functions (XFCNs) that developers can incorporate into their own stacks. The Tbx XFCN lets users access more than 1,100 Toolbox routines via HyperTalk scripting instead of through procedural languages such as C or Pascal; the Peep XFCN retrieves Toolbox records and converts them into HyperTalk.

The Tbx System stack contains a catalog of Toolbox routines and records, provides examples of important routines and Pascal definitions of each record, and includes an installer for copying the XFCNs into stacks or creating a royalty-free distribution version of the Tbx XFCN.

The Tbx System, which was developed by Blue Palms Systems here, is compatible with all routines in the Macintosh Toolbox ROM, including System 7 routines, Tuesday Software said.

The Tbx System will be available for an introductory price of \$80 until the end of the month.

Tuesday Software is at 215 Via Sevilla, Santa Barbara, Calif. 93109. Phone (805) 962-7889. □

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Rayven medical scanners get inside line on X-rays

By Matthew Rothenberg

Torrance, Calif. — X-Ray Scanner Corp. is shipping a new line of radiographic scanners for medical and scientific uses.

The Rayven Radiographic Scanning Series, available now, comprises three floor-standing CCD (charge-coupled device)-based scanner models: The \$8,000 RSU 1, which can detect

objects as small as 141 microns; the \$10,000 RSU 2, which can distinguish 100-micron objects; and the RSU 3, which can detect objects measuring 60 microns.

The RSU 1 and RSU 2 can scan an image at up to 2,048 by 2,048 lines at eight bits per pixel with an optical density range of 0.01 to 2.8, and the RSU 3 can capture up to 4,096 by

4,096 lines at 12 bits per pixel with an optical density range of 0.01 to 3.5, XRS said.

Each Rayven scanner can capture large-format X-rays measuring up to 14 inches wide and uses a sheet-fed mechanism to scan 17-inch-long standard or 36-inch-long spinal X-rays, according to XRS.

The scanners save Mac files in TIFF, PICT

or Encapsulated PostScript formats. Each comes with a SCSI interface and a cable, as well as a Mac software driver.

In addition, XRS announced the release of its 6cx OmniMedia scanner, a \$4,400, 600-dpi desktop CCD-based model based on the company's 6c OmniMedia scanner (see MacWEEK, Sept. 10, 1991) but specialized for X-ray scanning.

X-Ray Scanner Corp. is at 4030 Spencer St., Torrance, Calif. 90503. Phone (310) 214-1900; fax (310) 214-1474. □

Storage Dimensions adds DAT, new opticals

By Dartanyan L. Brown

Milpitas, Calif. — Storage Dimensions Inc. recently added two new optical drives and a digital audio tape drive to its MacinStor line.

► **MacinStor 1000.** Available now for \$6,795, this external 5.25-inch optical drive provides up to 1 Gbyte of formatted capacity. Based on a Maxoptix Tahiti II mechanism, it offers a 256-Kbyte buffer and a sustained data transfer rate of 1 Mbyte per second. One cartridge is included; additional disks are \$295. The device also can be used with industry-standard 650-Kbyte optical disks.

It comes with Dantz Development Corp.'s Retrospect backup software.

► **MacinStor 128EO.** Due this week at \$2,259, the 3.5-inch erasable optical drive fits in the front bay of the Quadra 900. Based on a mechanism from Sony Corp., the 128EO offers a capacity of 128 Mbytes, an average seek time of 40 milliseconds and a sustained data transfer rate of 625 Kbytes per second. Additional disks are \$99.

► **MacinStor Tape 2000.** Based on a mechanism from Hewlett-Packard Co., the DAT drive can store up to 2 Gbytes of information on a 90-meter cartridge. An external unit is \$2,999; an internal version for the Quadra 900 is due at the end of this month, but pricing has not been set. The DAT drives ship with a four-pack of Dantz's Retrospect Remote.

Storage Dimensions Inc. is at 1656 McCarthy Blvd., Milpitas, Calif. 95035. Phone (408) 954-0710; fax (408) 944-1200. □

Ricoh optical jukebox holds up to 3.25 Gbytes

By Dartanyan L. Brown

Los Altos, Calif. — Ricoh Corp.'s File Products Division this week will ship its HyperSpace Shuttle, an optical-drive jukebox that can store up to 3.25 Gbytes.

Available to OEMs for \$7,990 in single unit quantities, the Shuttle is based on Ricoh's HyperSpace mechanism.

That mechanism offers an average access time of 37 milliseconds and a sustained data transfer rate of 1 Mbyte per second (see MacWEEK, Aug. 20, 1991). Cartridge exchange and mounting takes an additional six to 13 seconds, the company said.

The Shuttle's carousel holds up to five 5.25-inch, 650-Mbyte ISO (International Standards Organization)-format cartridges; each side of a cartridge can be configured as a separate drive.

The jukebox includes HyperSpace Shuttle Manager software, developed by Software Architects of Bothell, Wash., which handles disk mounting, directory management and security. □

Application

MacWrite II
Clarix Resolve
FileMaker Pro
MacDraw Pro
ClarixWorks
MacProject II
Clarix CAD
SmartForm Series
HyperCard
MacPaint

Story

How FileMaker Pro makes one man seem like a cast of thousands.



Jay Nathanson wears a lot of hats. His company—Target Marketing of Richmond, Virginia—is one of the fastest growing small businesses on the East Coast. Ask Jay to explain his success and he'll give you an uncharacteristically succinct response: FileMaker® Pro.

FileMaker Pro wears a lot of hats too. Jay literally built his business with it. He and his lean, mean staff use it to quickly research, quote, present, schedule, ship, label, invoice and generate checks and correspondence for every job. The entire staff can access that data simultaneously—and effortlessly. So almost any question a customer can think of can be answered *while they're on the phone*.

FileMaker Pro even closes Jay's books every month, in 45 minutes. As you might expect, those books look pretty good.

Jay Nathanson is just one of over a quarter-million people who benefit from FileMaker Pro. You can too. To see how call 1-800-729-2292, ext 10.

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Timeslips update offers variety of new reports

Adds custom client reports, budgeting

By Rochelle Garner

Essex, Mass. — Timeslips Corp. last month released Version 2.1 of Timeslips III For the Mac, an update that adds an array of new reporting features.

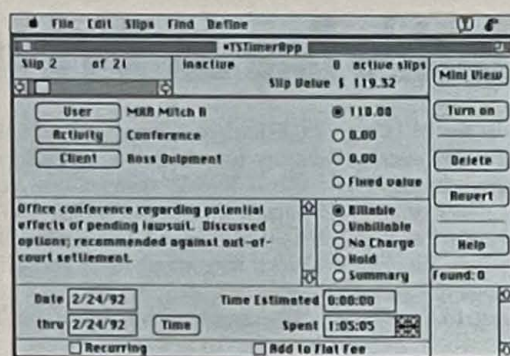
Priced at \$299.95 in the single-user version, Timeslips III now offers budget reports, allowing users to compare forecasts to actual hours, fees and costs by client. Information can be broken down by activity, user or projects for specific periods. The new User-Defined Client Report can set up client information in columns; Mark-Up Report lists price markups and markdowns by activity and expense; and Work-In-Progress lists charges on hold as well as monthly totals.

In addition, users now can create multiple billing formats with different levels of detail, as well as time reports showing project status and staff productivity. Time and expenses now can be entered in batch operation.

Timeslips also supports additional passwords and access rights for network use.

A network edition of Timeslips III For the Mac, which includes a license for five users, is \$699.95. Additional users cost \$139.95. A single-user upgrade to Version 2.1 is \$49.95; the network upgrade costs \$79.95.

Separately, Timeslips announced that its \$79.95 Timeslips III Accounting Link For the Mac can link to Great



Timeslips III For the Mac now offers a greater variety of reports, including one that lists price markups and markdowns.

Plains Software Inc.'s Great Plains Series 6, Softsync Inc.'s Accountant Inc./Multiuser and Wyoming Software Inc.'s Business Sense.

Timeslips Corp. is at 239 Western Ave., Essex, Mass. 01929. Phone (508) 768-6100; fax (508) 768-7660. □

Edmark releases touch-sensitive screen

Redmond, Wash. — Users can pull down menus, drag items and draw graphics with a simple touch with TouchWindow, a new touch-sensitive screen from Edmark Corp.

The \$335 screen, with a work area of 11 by 8.5 inches, also can be removed from the monitor and used as a graphics tablet. TouchWindow comes with one writing

stylus; a package of 10 additional styluses is \$9.95.

The screen plugs into the Mac's Apple Desktop Bus and sports an additional ADB connection for use with a mouse.

Edmark Corp. is at 6727 185th Ave. N.E., P.O. Box 3218, Redmond, Wash. 98073. Phone (206) 861-8200; fax (206) 861-8998. □

MicroMaps covers new PS ground

By Raines Cohen

Lambertville, N.J. — MicroMaps Software Inc. is now offering several new PostScript clip-art map packages, including world views, U.S. metropolitan areas, U.S. counties and detailed country maps.

All of the files are in Adobe Illustrator format, which can be opened with Aldus FreeHand and placed directly in page layouts created in QuarkXPress and Aldus PageMaker, the company said.

The new collections are:

► **Global Perspectives**, priced at \$49, includes 18 views of the earth, each centered over a different area.

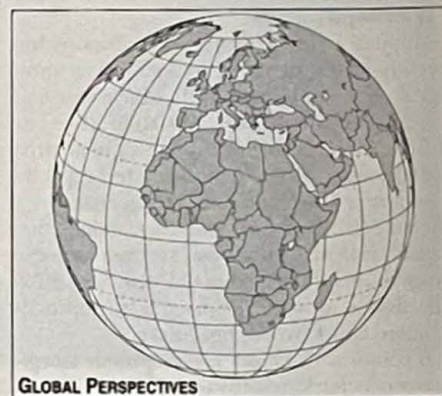
► **Highly Detailed Country Maps** includes detailed maps of every country in the world. Users can select a small area and magnify it with no loss of detail, the company said. Map features include coastlines, rivers, islands, lakes and political boundaries. The maps are grouped into 12 regions for \$299 or \$49 per region.

► **U.S. States by County** shows county

borders in detail. The \$49 package features state boundaries that fit precisely, so users can create custom maps by cutting and pasting.

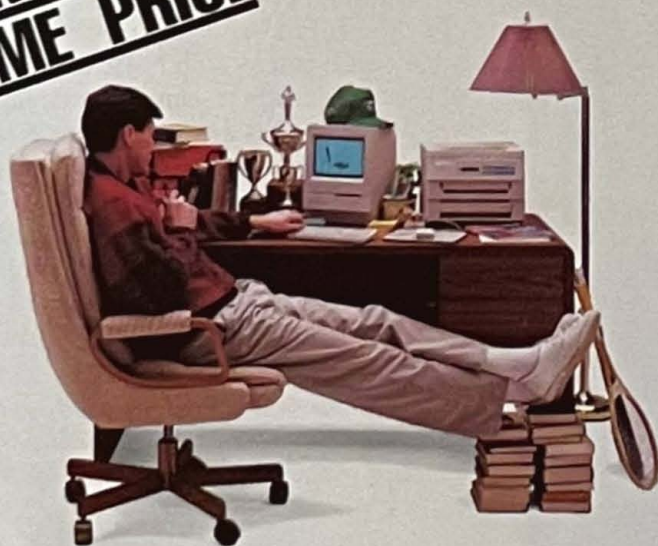
► **Metro Areas — USA** includes coastlines, city limits, major roads and adjacent towns. The U.S. city maps, available for most metropolitan areas, are \$49; the complete set of 25 cities is \$299.

MicroMaps Software Inc. is at P.O. Box 757, Lambertville, N.J. 08530. Phone (609) 397-1611 or (800) 334-4291; fax (609) 397-5724. □



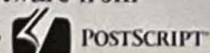
MicroMaps has expanded its line of clip art with maps of global perspectives, U.S. metropolitan areas and counties.

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No matter which Mac you pick, we've got a PostScript printer to go with it. Personal or shared.

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Plus it's only 13.4" wide and 14.2" deep — a natural deskside companion for any Mac.

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Pick a Macintosh®

The complete PostScript® printer



Shared office. Shared printer. Now here's the right match for one Mac or many. In fact, the 16 ppm microLaser XL is a natural fit for an AppleTalk® network. And like its slightly smaller cousin, this workhorse printer offers you either 17 or 35 scalable fonts, priced at \$2,899* and \$3,249*, respectively.

Plagued by uncertainty? Try Bayesian belief

By Mitch Ratcliffe

Redwood City, Calif. — Expert systems have been limited by an inability to handle uncertainty, the constant shifting of variables in a decision-making process. The results have been rigid decision tools that become obsolete by new experiences.

But Ergo, a \$1,995 application

shipping now from Noetic Systems Inc. for Mac, DOS and Unix computers, is designed to account for new information as users collect it. It is the first of a suite of applications from the company that uses Bayesian belief networks, a system of artificial intelligence in which each variable of a decision includes a range of conditions and values

that can affect the outcome.

Users can graph decisions as a collection of nodes, or variables, in a simple drawing interface. Ergo also lets users assign conditions and weights for each variable, then link them to represent complex decisions.

New decision capabilities also can be added without having to change the entire system structure, the company said. For example, a system for use in an automobile repair shop could be configured to provide a "best guess" for each engine sound the mechanic identifies. As mechanics become more certain of their own diagnostic skills, they can change the probabilities.

Ergo supports embedding of an expert system in Mac applications through HyperCard external commands (XCMDs), C code and ACIUS Inc.'s 4th Dimension resources.

Developer versions for the Mac, DOS or Unix cost \$1,000 and include one runtime license. Academic prices are available.

Noetic Systems Inc. is at 432 Sequoia Ave., Redwood City, Calif. 94061. Phone (415) 369-3706; fax (415) 369-2804. □

MicroMath calculator DA packs engineering, scientific functions

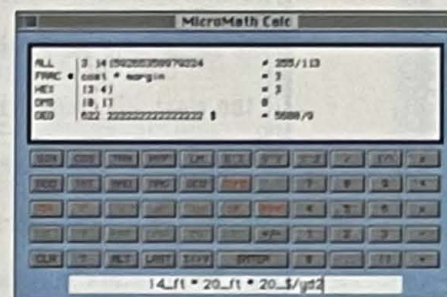
By Mitch Ratcliffe

Salt Lake City — Macs will be able to do scientific and engineering mathematics with the new calculator desk accessory from MicroMath Scientific Software.

The \$99.95 MicroMath Calc, which provides the same functions as a Hewlett-Packard scientific calculator, can perform mathematical, logarithmic, trigonometric and statistical computations. It requires 100 Kbytes of RAM and does not need a math coprocessor.

MicroMath Calc allows users to type equations as they are written or in Reverse Polish Notation. Equations can be transformed after entry by choosing a new calculator view, so that a decimal expression is changed to its fractional form. Expressions can also be saved for later analysis.

The program includes a library of physical and mathematical constants for converting units of measure. When multiplying a newton by a meter, for example, MicroMath



Users can put the functions of a Hewlett-Packard scientific calculator under their Apple menu with MicroMath Calc.

automatically displays the result in jewels. New constants can be added to the library as well.

Users also can evaluate expressions viewed in binary, octal, decimal, hexadecimal and logical bitwise formats. Support for AND, OR and XOR is included for use in evaluations.

Statistics can be computed with integral and Gaussian arithmetic, allowing users to manipulate a range of numbers as a unit in an equation.

MicroMath Scientific Software is at P.O. Box 21550, Salt Lake City, Utah 84121. Phone (801) 943-0290; fax (801) 943-0299. □

PARO paper takes designs to fabric

By April Streater

Vancouver, British Columbia — Graffoto Inc. last month began shipping an advanced version of its PARO paper, which lets users transfer Mac-designed graphics directly onto T-shirts.

The multicoated PARO paper works with Canon's CLC 500 printer outfitted with Canon's IPU (intelligent processing unit) or Electronics for Imaging Inc.'s Fiery PostScript controller.

The Canon's mirror-printing capability lets users press Mac-generated graphics directly from the printer output page onto cotton or canvas by a commercial heat press. The original PARO paper system

requires a two-page transfer process.

Companies such as Guess? Inc. have taken advantage of the paper to produce short runs of promotional T-shirts and single-sample designs.

"We need to see our ideas on a garment right away, and with this paper it's straight from the printer to the shirt," said Guess? designer Walter Hamilton.

PARO is available from Graffoto in cartons of 100 sheets for \$150; cartons of 500 have a per-sheet cost of \$1.35.

Graffoto Inc. is at 1110 Hamilton St., Suite 300, Vancouver, British Columbia V6B 2S2, Canada. Phone (604) 683-1235 or (800) 888-7838; fax (604) 683-1235. □

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was made for the Mac. Even when you use its multiple paper trays, because each microLaser comes with TI's Paper Tray Manager software.

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Unlike most printers that merely claim to be appropriate for network applications, the QMS-PS[®] 1700 was conceived and built to fulfill one basic objective: To be the most efficient printer there is in a network environment. In terms of cost, as well as performance.

Proprietary software that resides within a 25 MHz RISC controller is what sets this printer apart.

It handles PostScript[®] documents up to six times faster than printers with the more common 68020 microprocessor. And it's the heart of an architecture that you'll find in printers from QMS[®] and only QMS. We call it Crown.

Crown architecture is the platform for everything that makes our printers The Network Printers.[™] Consider whether its benefits would help your group work more efficiently.

The QMS-PS 1700 recognizes incoming data and selects the right printer language, without troublesome software reconfigurations.

The QMS-PS 1700 connects to Ethernet[®] configured as DECnet[®], TCP/IP, Netware[®], or EtherTalk[™] or to Token Ring[®] configured to support Netware. And it will receive and process data over all its interfaces simultaneously. So it can be shared between multiple computers with different operating systems.

There was a time when we all worked QMS-PS individually. We each had a computer and we each had a printer. Today, many of us work in groups.

HOW TO SP NETWORK AMONG A HOST



Multi-res lets you switch between the exceptional output of 600 dpi and the speedier, everyday 300 dpi resolution.

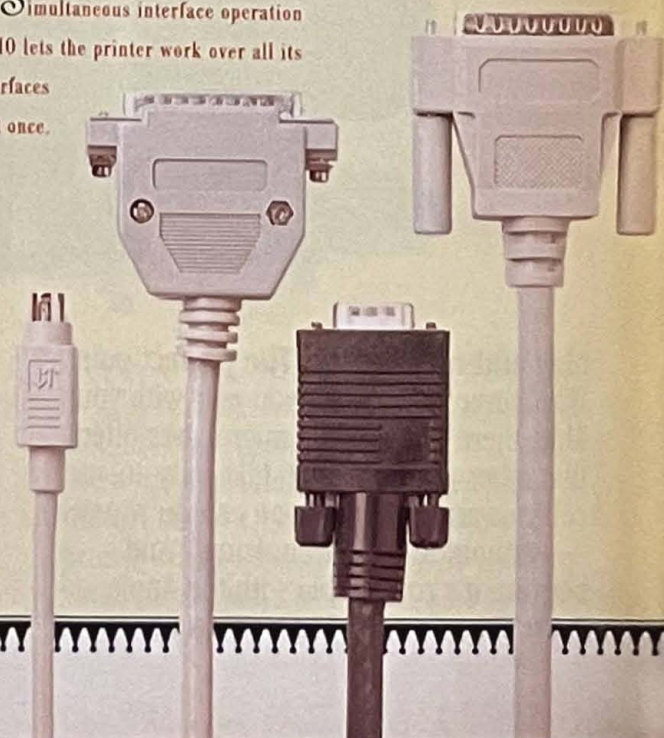
A ROM card gives the LAN administrator control over the printer's settings.



The QMS-PS 1700 carries a two-year warranty. QMS national service enjoys a 97% service satisfaction rating. And all consumables and accessories are available from one dependable source — us.



Simultaneous interface operation or SIO lets the printer work over all its interfaces at once.



1 7 0 0 We choose our computers for their ability to perform well within networks. Shouldn't the same criterion now apply to our printers?

NOT THE TRUE PRINTER OF IMITATORS.

	QMS-PS 1700	HP IIIsi
Both 300 and 600 DPI resolution	✓	
Concurrent interfacing	✓	
Spooling	✓	
Context switching	✓	
Security system	✓	

You could compare the QMS-PS 1700 to the HP IIIsi, but there really is no comparison.

Crown architecture.
Proprietary hardware
and software design
that makes our printers
The Network
Printers.

Apple® Macintosh®



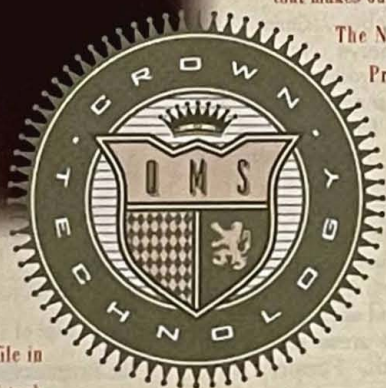
Sun® Workstation



PC Compatible



The Emulation Sensing Processor or ESP selects the appropriate printer language without time-consuming reconfigurations.



The QMS-PS 1700 printed this file in 62 seconds. The HP® LaserJet® IIIsi took 180 seconds. That's almost 3 times as fast.



Its input buffers increase throughput by spooling jobs so that host applications aren't hung up waiting for files to print.

The input capacity of the QMS-PS 1700 is 1,000 sheets. Output is 500. And there's an optional duplexer for two-sided work.

What's more, if a job is interrupted for any reason, this printer has the intelligence to reprint any needed pages and then continue with the job.

Its context switching capability preserves "states", such as fonts and macros, when switching between emulations so you needn't waste time downloading them each time an emulation is selected.

Storage capacity for font caching, and font or emulation storage, can be expanded with optional internal and external SCSI hard drives.

And there's even an optional System Security Card that lets the LAN administrator control settings and avoid the chaos that can result from unauthorized end-user adjustments.

The QMS-PS 1700 is quite a bit more than a laser printer. In fact, it's exactly what most work groups need but haven't been able to find. Until now. The QMS-PS 1700 is The Network Printer.

QMS

1-800-523-2696

Gateways

► Networking
► Communications



Dayna's net tracker breaks barriers

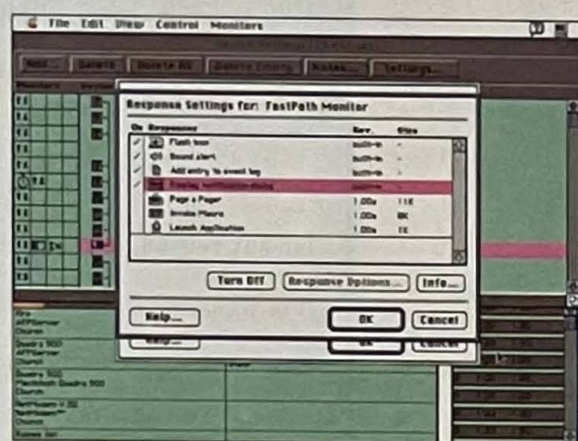
Net manager can monitor remotely

By Henry Norr

Salt Lake City — Dayna Communications Inc. is promising network managers a way to take the pulse of their AppleTalk networks without having to pay house calls — and without having to carry a bag full of specialized instruments.

The company's Network Management System, a suite of new software and hardware products first demonstrated at last month's Macworld Expo (see MacWEEK, Jan. 6), is now expected early in the second quarter. Together, the products incorporate several breakthroughs:

► **Cross-segment monitoring.** To check traffic and error rates on complex networks, managers have previously had to run monitoring software on each segment of their systems. The Dayna products can



Dayna's Network Vital Signs features a modular architecture that lets users select the devices and performance parameters to be monitored, as well as the program's response when problems are detected.

deliver both real-time and historical data from all parts of an AppleTalk network to a single Mac.

The system includes the NetScope Probe, a small hardware device with LocalTalk or Ethernet interfaces, and the NetScope Console, an application that retrieves and graphically displays data from the probes. A probe must be installed on

each monitored segment, but one unit can support both an Ethernet and a LocalTalk segment.

Together, the products track such indicators as total bandwidth usage, error rates and traffic levels on specific devices such as routers. Data can be exported in Microsoft Excel format.

A bundle of one probe and the software costs \$899. Additional probes are \$499, while the software will be sold separately for \$449.

► **Unified and detailed fault monitoring.** The second software component of the Dayna system, called Network Vital Signs, provides status reports, performance data and fault alerts for a variety of AppleTalk devices.

The package, priced at \$449, can monitor the status of any AppleTalk device physically connected to the Mac on which it runs, even over remote connections. It does not require NetScope Probe hardware.

The package consists of software modules that monitor various devices and dimensions of network performance; a background driver that collects data in real time and alerts managers to problem conditions; and an application for historical analysis.

While competitors offer products that monitor the up-down status of AppleTalk devices, Vital Signs is unique in providing device-specific monitors, Dayna said.

In addition to monitors for overall network performance and the up-down status of devices and networks, the package will ship with specific modules for the Apple LaserWriter and the Shiva FastPath.

The LaserWriter monitor, for example, can report that a printer is out of paper or a tray is removed. A software module designed for users with NetScope Probes installed can alert a manager when traffic or error rates exceed user-defined thresholds.

The package is designed to be extensible and protocol-independent.

See Dayna, Page 22

VersaTerm upgrade wraps Macs tighter in their TCP/IP networks

By Margie Wylie

Reading, Pa. — Your Mac can participate more fully in a TCP/IP network with new versions of VersaTerm and VersaTerm-Pro, Synergy Software's terminal emulators and file transfer programs.

VersaTerm 4.6 and VersaTerm-Pro 3.6, due this week and still selling for \$149 and \$295, respectively, now offer up to eight simultaneous sessions, along with new TCP/IP features:

► **File transfer.** Macintosh users will be able to act not only as FTP (File Transfer Protocol) clients, but as servers with the new FTP Client Tool and FTP Client Application and VersaTerm FTP Server INIT.

Unlike the FTP Tool, a Macintosh Communications Toolbox tool offered in previous versions, FTP Client Tool and Client Application can be used to establish an FTP session without first establishing a host session. The Client application works without launching Versa-

Term or VersaTerm-Pro.

FTP Server INIT allows other TCP/IP nodes to transfer files to or from a Mac acting as an FTP server, again without launching a communications program. User names, passwords and read-write permissions are configured through a control panel.

► **Time synchronization.** VersaTerm Time Client INIT, a system extension, lets users synchronize their Macs' clocks with a TCP/IP Time Server at start-up. Common in Unix networks, the server keeps all the workstation clocks on the network set to the same time so that database update logs and other such time-sensitive entries are synchronized.

The new VersaTerm Time Server INIT also will let any Mac on the network act as a TCP/IP Time Server. Upgrades are \$20.

Synergy Software is at 2457 Perkiomen Ave., Reading, Pa. 19606. Phone (215) 779-0522; fax (215) 370-0548. □

Service bureaus turning to digital nets

By Shawn Tomlinson

New York — Service bureaus are using digital telephone networks to offer high-speed alternatives to buying your own costly output devices for color graphics or CAD drawings.

Some service bureaus are now using Switched 56, a 56-Kbps telephone technology, to provide users with fast turnaround on large graphics jobs. After receiving jobs over Switched 56 lines, bureaus can produce finished output and return it to the customer by courier or express mail, often in less than a day.

One service bureau making the switch to digital connectivity is Business Link Communications Inc. The company is offering customers digital PostScript output devices through a high-speed service it calls

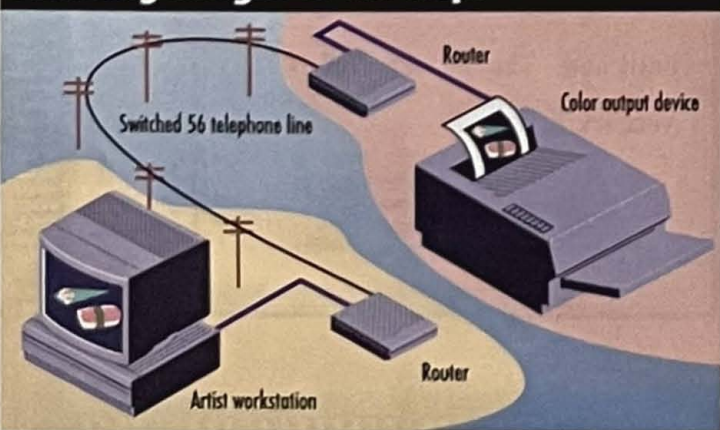
Desktop Imaging Network. A Switched 56 wide-area network connects the bureau to customers anywhere in the United States and nine other countries.

Switched 56 service is 23 times faster than a standard 2,400-bps modem, delivering 1 Mbyte of throughput in about three minutes. Previously, users have been limited by the speed of their 2,400- or 9,600-bps modems, which can take as long as an hour to transmit a 1-Mbyte file.

When tapping into these high-speed networks, each site requires a dedicated Switched 56 telephone line. By attaching a router, such as San Diego-based Solana Electronics Inc.'s \$1,695 H-Server to this phone line, users can route AppleTalk traffic

See Digital, Page 23

Shuttling images at 56 Kbps



CompuServe institutes flat fee

By Nathalie Welch

Columbus, Ohio — CompuServe Inc. last month introduced a set of on-line services for a flat monthly fee as opposed to its hourly connect charges. The company also released upgrades to its Mac user software.

The basic services plan, available now, includes unlimited access to more than 30 areas for \$7.95 a month. Forums and vendor-support areas are not included.

Users accessing services not listed in the basic group will still be charged \$12.80 per hour.

CompuServe Mail users can read incoming mail for free, except messages from the Internet. Sixty three-page messages can be sent for free each month.

"I use CompuServe to download fonts and software [in forums], so the cheaper basic services wouldn't do much for me," said Kevin Davis, a free-lance graphic designer in San Francisco. "There's not enough to get current users [to switch]."

CompuServe last month began shipping Version 1.6 of its \$49.95 CompuServe Information Manager (CIM) and Version 3.1 of its

Some basic services

- National Weather Service
- Grolier Academic American Encyclopedia
- HealthNet
- EasySabra reservation system
- Basic Current Stock Quotes
- Associated Press news and entertainment
- Department of State
- The Electronic Mall
- Roger Ebert's Movie Reviews
- CastleQuest adventure game

\$99.95 CompuServe Navigator. CIM enhancements include message-sorting options and connection scripts, customizable for non-standard situations, such as modem pools.

Navigator 3.1 supports Apple events and balloon help. Also, a new tile type provides access to most articles and menus on the service.

Upgrades are available on-line; on disk, the CIM update is \$25 and the Navigator update is \$20.

CompuServe Inc. is at 5000 Arlington Centre Blvd., P.O. Box 20212, Columbus, Ohio 43220. Phone (614) 457-8600; fax (614) 457-0348. □

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and free telephone technical support.

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Ask your reseller about the new MacRing family from Asanté. The way to make certain that the Macs you connect to Token Ring will get along with your other computers very nicely.

We'd like to remind resellers that Asanté products are available from Merisel, IngramMicro, and Tech Data.

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Apple wireless devices heard 'round world?

By Mitch Ratcliffe and Dartanyan L. Brown
Málaga-Torremolinos, Spain — Apple's plans for roaming wireless networks of Macs and other devices could be altered by diplomatic maneuverings that start this week in this Spanish town.

Representatives of 165 countries will meet for the next month to divvy up international rights to the radio spectrum at the World Administrative Radio Conference (WARC) '92, a meeting of the United Nations International Telecommunications Union.

The outcome of the negotiations here could affect whether users of

wireless computers will be able to transmit data anywhere in the world.

In the United States, it could have an effect on Apple's proposals to the Federal Communications Commission for setting aside portions of the public-radio spectrum (see MacWEEK, Feb. 5, 1991).

As proposed by Apple, Data-Personal Communications Services (D-PCS) would free up radio bandwidth between 1,850 and 2,200 MHz for use by data and voice communication devices, such as the handheld devices planned by Apple's consumer products division and Apple spinoff General Magic. Wireless devices now use expensive and exclusive private cellular networks, such as Motorola Corp.'s and IBM Corp.'s ARDIS, to communicate and send data (see story, Page 6).

The United States last month reinforced its claim to spectrum allocated for voice and data communications by an earlier WARC, when it took steps to allocate bandwidth for "emerging technologies" (see MacWEEK, Jan. 20). But the decision isn't final.

"When the FCC made [the emerging technologies] announcement, they allocated no frequencies. Every country has a voice at WARC, and typical politics don't apply," said Bill Stevens, Apple manager of wireless networking.

"[The United States] will have to get international allocation first, and then we can decide on what to do with the issues involving domestic frequency allocation," a State Department spokeswoman said.

According to the State Department official, the United States also could work outside WARC rules or apply for permission to use the D-PCS spectrum it wants in the Western Hemisphere only.

Even if D-PCS is "a settled matter" within the United States, as Ambassador Jan W. Baran, chairman of the U.S. delegation, said, Apple is still pushing for a uniform worldwide bandwidth so users can roam the world using a single radio data device.

Without a worldwide spectrum allocation, companies must engineer wireless products for several different frequencies to sell into international markets. This is an expensive and intricate task because small changes in frequency can drastically affect signal propagation

or antenna design, among other things, according to manufacturers.

European countries — now including the newly independent Baltic states — have banded together and are offering 14 alternative radio initiatives, making the likelihood of settling on a single global allocation somewhat remote.

Still, whether the outcome is a single standard bandwidth or many different frequencies, "there is a need for worldwide standards before companies can begin producing products," said Kaveh Pahlavan, director of the Center for Wireless Information Network Studies at Worcester

Polytechnic Institute in Worcester, Mass., speaking at ComNet '92 in Washington, D.C., last week.

WARC get-togethers also have been known as contentious forums that engender little in the way of international cooperation, Baran said. For example, in 1982 the Arab world, backed by the Soviets, spent most of the conference trying to expel the Israeli representatives, he said.

This year, however, Baran expects the spirit of capitalism to smooth geopolitical waters. Visions of profits could melt the barriers to an agreement, Baran said during a State Department briefing last week. □

Radio showdown in Spain

The World Administrative Radio Conference '92 will decide on spectrum for:

- ▶ Worldwide personal voice and data communications
- ▶ Future technologies
- ▶ Low earth-orbiting satellites for voice communications
- ▶ Radio-location services
- ▶ High-frequency (shortwave) broadcasting

Dayna

From Page 20

Modules for additional network devices and services are under development, including one for AppleShare 3.0 that will report, for example, when space runs low on a server volume. In the future, as SNMP (Simple Network Management Protocol) is implemented in AppleTalk devices, Vital Signs also will collect information in that format, Dayna said.

▶ **Flexible response.** In addition to choosing what devices and conditions are to be monitored and polling intervals for each, Vital Signs users will be able to configure the program's response to each type of

error. Options include pop-up dialogs, recording in an event log, audible alerts and paging via Ex Machina Inc.'s Notify! software.

The program also can invoke macros created with any macro utility and, under System 7, launch a specified application when an error occurs. Modules for automatic notification via CE Software Inc.'s QuickMail and Microsoft Mail are under development.

A bundle including Network Vital Signs, NetScope Console and one NetScope probe will be \$1,199.

Dayna Communications Inc. is at 50 S. Main St., Salt Lake City, Utah 84144. Phone (801) 531-0600; fax (801) 359-9135. □

Slim pickin's...

Finding a complete solution for networking Macintosh computers used to be about as easy as finding a ripe red apple during a mid-winter freeze. The pickin's were pretty slim... until now!

Cabletron Systems, the company that brings you the industry's most complete networking solution, now provides a rich harvest of connectivity options for Macintosh users to choose from—including Ethernet, Token Ring, and FDDI.

From wiring hubs and adapter cards, to sophisticated network management systems, Cabletron offers the broadest, most feature-rich product line for the Macintosh environment.

And with products such as Cayman Systems' LocalTalk-Ethernet GatorMIM routers—designed for integration into Cabletron's MMAC™ series of intelligent wiring hubs—Macintosh users are provided with standards-based networking capabilities tailored to their individual needs.

Digital

From Page 20

to any site that subscribes to a Switched 56 network.

"We used to use a straight modem, but that takes much time," said Javier Romero, president and creative director of Javier Romero Design Inc. in New York, one of the first Desktop Imaging Network users. He is using the network to send four-color graphics to the service bureau at Business Link Communications, but he said he expects to use Switched 56 to move files between his offices in New York and Madrid, Spain.

"Because of this new technology, we can handle things more directly from New York, without having to grow our Madrid office," he said.

Romero's designs have included posters for a World's Fair and layouts for the Sunday magazine of El País, a Madrid newspaper.

Romero uses an \$899 TransTalk WAN router from Mountain View, Calif.-based International Transware Inc. to provide his network connection. The TransTalk router lets printers and servers in Romero's worldwide offices appear to remote users as if they were physically connected to the Mac.

Another charter user of the Desktop Imaging Network is Ron Meckler, principal of Re:Design Graphics & Consulting, a design and media consulting firm based in New York.

"If [the Desktop Imaging Network] works like it's supposed to, I can basically send files across town like I send them to a printer at my own location," Meckler said. He now sends files by bicycle messenger to his clients, who are nearby.

Meckler said he intends to use digital telephony as a metropolitan-area networking tool. He said his company will use Switched 56 to send color magazine layouts to ad agencies.

"It's going to save us money by cutting out messenger services," he said. "It's a local call, so [we pay for] only the rental of the line."

Switched 56 services are becoming more widely available. Pacific Bell has announced Switched 56 service to business and home users throughout California. It intends to have it in service sometime this year. Other regional telephone companies have established business rates in recent months.

Users can expect to pay several hundred dollars for the phone company to start the service. After that, monthly bills will depend on usage, like ordinary phone service. Rates will vary among phone companies.

"It will be more expensive initially," Romero said. "But I'm saving myself from hiring one or two people in Madrid." He said the greater ease of use, faster performance and greater control justified the cost of Switched 56. □

RouterCheck-ing to be more universal

By Margie Wylie

Lafayette, Calif. — Neon Software Inc. will give Simple Network Management Protocol the opportunity to live up to its name with Version 1.1 of its multirouter management program.

Due in April, RouterCheck 1.1 will let managers gather information on a variety of routers on their AppleTalk network through SNMP agents. The program will, however, continue to use proprietary means to change router configurations.

SNMP is the accepted standard

by which network managers keep tabs on network devices. Although SNMP holds out the promise of also controlling devices through one standard interface, few vendors, including Apple, have activated this capability because SNMP still has too many security loopholes, said Michael Swan, president of Neon.

Apple only last year blessed the network management protocol for use with AppleTalk. Since then, Apple and other third-parties have worked together with the Internet Engineering Task Force, a standards-

forming body for the worldwide Internet network, to formulate guidelines for running SNMP under AppleTalk.

Every major Mac router maker has committed to implementing Apple's SNMP specification. A few devices, including Shiva Corp.'s FastPath 5, already support it.

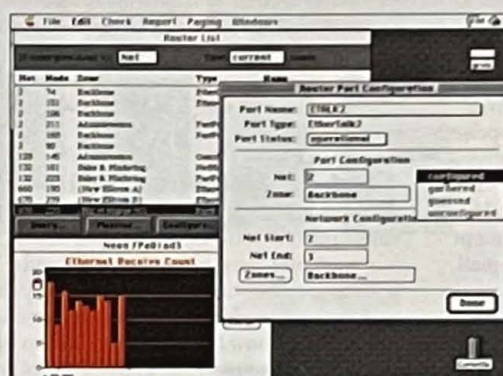
RouterCheck 1.1 also will let managers test how well their routers are per-

NetTime syncs clocks

forming by timing how long it takes a standard packet to travel to the router and back. The feature is designed to uncover problems such as an unbalanced network load or equipment failure, Neon said.

Version 1.1 also will include larger report sizes and the ability to generate a router list in the background. Upgrades are \$150 each.

Neon Software Inc. is at 1009 Oak Hill Road, Suite 203, Lafayette, Calif. 94549. Phone (510) 283-9771; fax (510) 283-6507. □



RouterCheck 1.1 will let users gather SNMP information on routers, in addition to the program's current information gathering and configuration capabilities, which use proprietary protocols.

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It's mix-and-match messages

Electronic-mail systems exist on every major corporate computing platform. But making them talk to one another is a Herculean task for network managers. Gateways offer a multipronged solution but increase the number of E-mail connections to be managed.

By Mitzi Waltz

At John Deere in Moline, Ill., cross-platform electronic mail has opened up the world of interoffice communication. Before the E-mail system from cc Mail Inc., a Mountain View, Calif.-based division of Lotus Development Corp., went into operation, the only E-mail delivery was through IBM Corp.'s pre-PROFS DISOSS system, which ran on the mainframe. Now John Deere's 30 Macs and 50 PCs are tied to each other and, via a gateway, to DISOSS and four Unix machines running Unix mail, said Office Automation Coordinator Linda Popp.

When users send mail, "it's totally transparent; you don't see anything at all to indicate whether the recipient is on a different kind of computer," Popp said. "Once we get the [automatic] directory updates done it'll be perfect." Currently, an E-mail administrator must add names to directories manually. The system is also easy to access from home computers or on-the-road laptops, a factor John Deere's sales staff appreciates.

Patchwork connections. Probably every manager in charge of a cross-platform E-mail installation wishes his or her site was as trouble-free as John Deere's. But as first- and second-generation gateways to disparate systems proliferate and improve, the mistranslated messages, lost addresses and bad connections many users have experienced should become less common.

Some vendors, such as Microsoft Corp. of Redmond, Wash., are doing their best to offer many links and gateways necessary for cross-platform operation themselves. The recently shipped Microsoft Mail Connection is intended to connect the different versions of Microsoft Mail that run on networks of Macs and IBM PCs and compatibles. Microsoft also offers gateways to PROFS; X.400 (a standard used by many mail systems, including Digital Equipment Corp.'s ALL-IN-1 and VMS Mail, AT&T Mail and Sprint TeleMail); Unix's SMTP (Simple Mail Transfer Protocol); Novell Inc.'s Message Handling Service (MHS); and many other communications protocols. Third-party gateways are also available for Mac systems.

Third-party development. Other companies, such as CE Software Inc. of West Des Moines, Iowa, are leaving the bulk of gateway development to third parties. CE's QuickMail 2.5 runs on Mac and PC networks, and other vendors have written a multitude of plug-in gateways.

Kevin Ladwig, systems engineer at Electric Data Systems in Dallas, keeps his site

talking via Microsoft Mail. He recently added Microsoft Mail Connection to tie his 100 Macs and 30 PCs together. The E-mail network already included a gateway to Systems Network Architecture Distributed Services (SNADS), which lets Microsoft Mail users communicate with host-based mail systems such as PROFS, and an MHS gateway, which hooks up users with remote sites. Ladwig hopes to tie in a 20-workstation network of Sun workstations running Unix mail soon using Microsoft's SMTP gateway.

Microsoft Mail gets the job done, Ladwig said, but the result has not been perfection. "It's a workable solution but not the happiest environment," he said. "It still feels like a patch job. I'm hoping Version 2.2 will take care of that."

Address problems. Ladwig's biggest problem is that address lists are not automatically updated between remote networks. The administrator must be sure to track and update user lists on the various gateways to make message addressing seamless for end users. "Right now there are eight different gateways to choose from, and [for the administrator] it's like peeling an onion to find who you're looking for," Ladwig said. "If you're on the same network it'll exchange messages and addresses fine, though."

Jim Warhman, principal engineer at Computer Science Innovation Inc. of Palm Bay, Fla., likes QuickMail's third-party gateways. CSI has 20 Macs and three DOS machines on QuickMail now and is adding PCs as the managers need them.

Warhman expects to add VAXes and Unix workstations to his E-mail system next year using third-party gateways. "It speaks well for QuickMail that it has an open architecture; I prefer a choice," he said. "If CE tried to put out every gateway known to man, I don't think they'd do as good of a job as third parties that really understand those other environments."

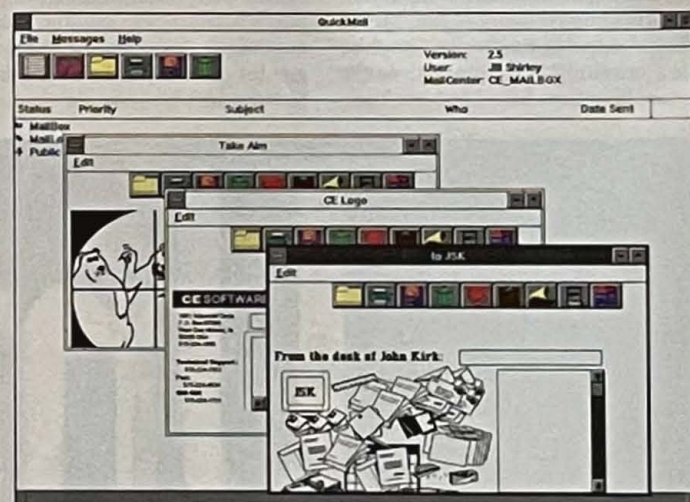
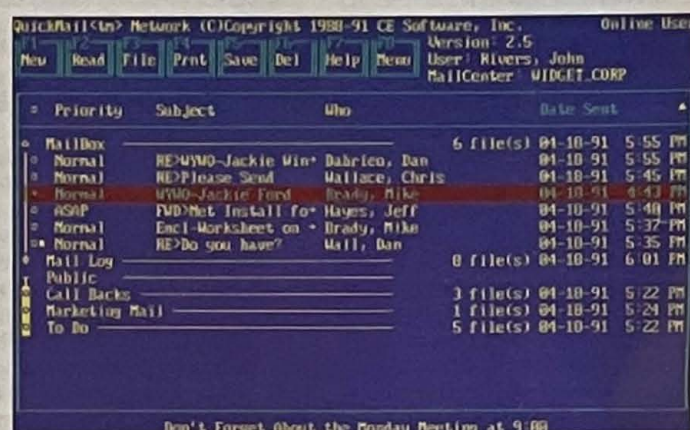
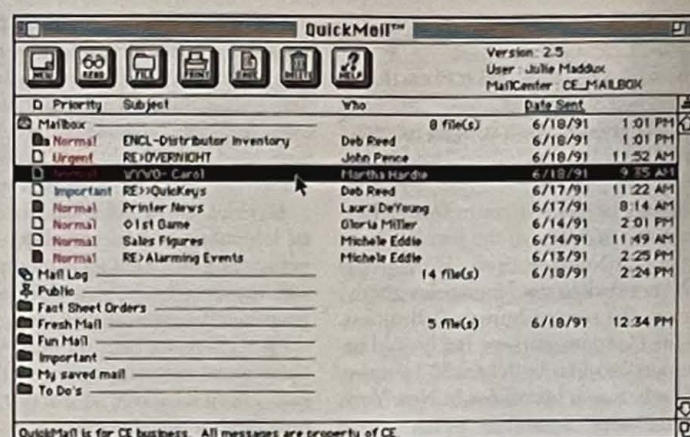
In fact, Warhman has used QuickMail's scripting capabilities to write his own Internet gateway. There's just one drawback to his system, he said: No Windows interface is available. "Folks here are gradually moving toward Windows," he said, "and I'd like to see that happen."

He added that CE's QuickMail-to-QuickMail software, which lets the head office send E-mail via modem to the company's Alabama and Maryland sites, has been "a powerful motivator" for the network's spread.

E-mail directions. The trend is definitely toward systems with a multiplicity of ways to marry into other E-mail nets. The market is moving away from single-platform software that makes users spend a long time addressing mail or navigating through a maze of gateways, according to Nina Burns, president of Network Marketing Solutions, a consulting, research and training firm in Menlo Park, Calif., that specializes in communications issues.

Burns said standards from Microsoft, Lotus and Novell eventually will prevail, with X.400 becoming the protocol of choice for communication between remote networks.

TCP/IP, the networking protocol most typically found on Unix-based LANs and wide-area networks, is supported on almost every type of computer in some fashion. And SMTP,



which runs on TCP/IP, is now the most widely used system for sending E-mail to and from Unix computers. Although SMTP has been advocated as a potential cross-platform standard, Burns said she doesn't expect to see it move outside the Unix world.

Cross-platform gateways are also becoming an integral part of more networking products. Pathworks for Macintosh, the network operating system from Maynard, Mass.-based DEC and Apple, includes Mac E-mail clients and hooks for outside E-mail networks.

The standard system includes a client that can link with any VMS Mail or SMTP system. Pathworks also comes with a license for DEC's ALL-IN-1 E-mail system, an X.400 user agent that will let managers implement any X.400-based mail system and distributed directory services to avoid complex addressing.

Though E-mail integration with applications is more vendor promise than reality, WordPerfect Corp.'s WordPerfect Office includes E-mail along with a suite of simple office productivity programs for Macs and PCs.

Once a major user concern, the user interfaces of mail are rarely mentioned as a problem these days. "Interfaces are becoming more standard with the advent of Windows, and that's a good move for the user," Burns said. □

While the ultimate cross-platform electronic mail would serve any client, Windows and DOS users are the most important types for most micro managers. CE Software's QuickMail 2.5 supports Macintosh and DOS clients directly, with an OS/2 client expected soon. The upcoming Windows client (a ship date has not been announced) will make the circle complete—a state of affairs many companies have waited some time to achieve.

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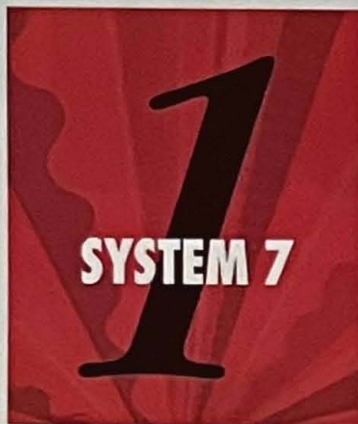
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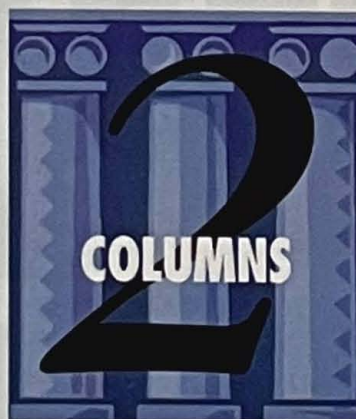
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your network. Publish and Subscribe assures you that your documents will always reflect the latest information available.

And it's just one of the new System 7 tricks that WordPerfect 2.1 has mastered.

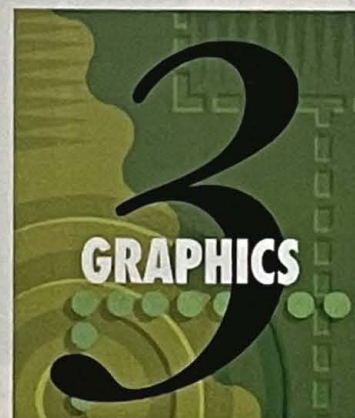


Because WordPerfect does columns better than the Greeks.

Pick a starting point, click on the ruler, and see your text in two columns. Or in three columns. Or five columns. With vertical rules beside or between them, if you like. Drag a guide on the ruler and try *unequal* columns. Highlight text in a box that jumps across columns.

Go crazy with the design, or stick with the tried-and-true.

The point is, WordPerfect gives you formatting options that other word processors don't. And exploring them couldn't be much easier.



Because you'd use more graphics if using them were easy.

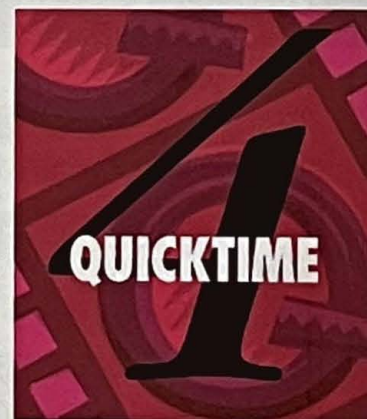
WordPerfect not only gives you full control over the placement of graphics in your text, it also gives you a color drawing program for modifying imported artwork (or starting over from scratch) without ever leaving the program.

You can print graphics under your text (as "water-

marks") or on top (as overlays).

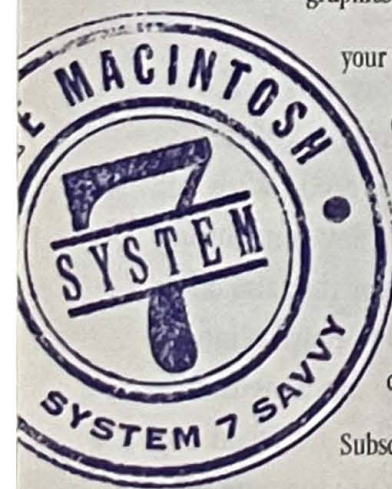
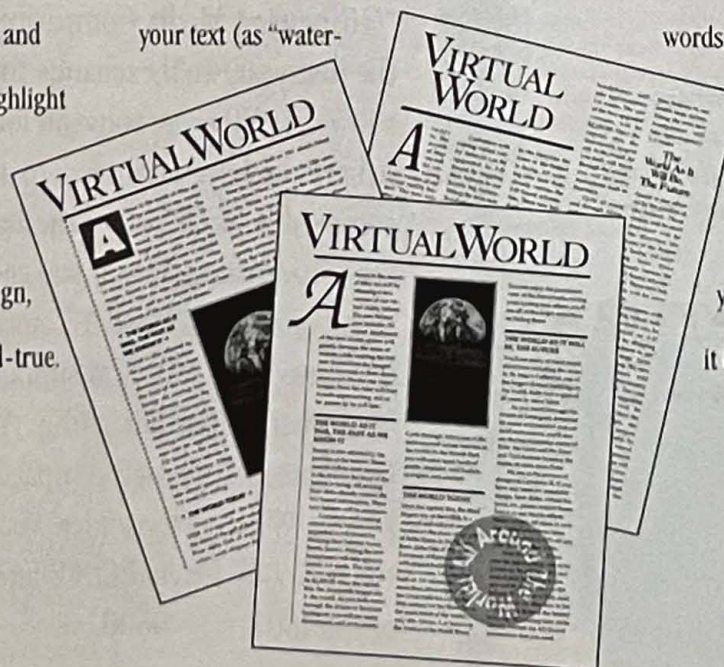
You can use the drawing tools to rotate text to any angle that strikes your fancy (something many page-layout programs still can't do).

And WordPerfect gives you 36 border styles and 64 fill patterns — which you can use in any of 256 colors — for highlighting graphics, paragraphs, columns, pages, even blocks of text.



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With no more knowledge than that, you can create a WordPerfect macro. And can spare yourself the effort of formatting M-E-M-O-R-A-N-D-U-M, T-o-, F-r-o-m: (and so on) across the top of the page every time you want to fire off a memo, for example.

But simple as recording your own macros can be, we also ship a number of them with the program. For formatting addresses to print on envelopes. Placing "drop caps" at the start of paragraphs. And other jobs you'd rather not do twice.



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Interactivity comes Special Delivery

By Andrew Gore

Palm Springs, Calif. — Special Delivery, an application that lets users create interactive presentations without programming, made its debut at last week's DEMO 92 personal computing conference here.

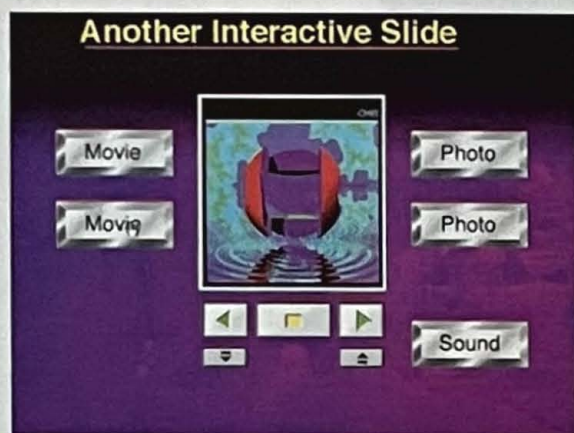
Developed by Interactive Media Corp. of Palo Alto, Calif., the program uses a series of menu commands to let presenters put buttons on on-screen slides, which can display PICT, TIFF, Encapsulated PostScript and Paint images as well as play QuickTime movies. Buttons can start, stop, rewind and fast-forward a movie; play sounds; or let users navigate through the slides in a presentation.

"Special Delivery won't replace slide-based presentations, but if you want to make slide shows that are interactive, and you don't want to program in HyperCard to do it, this is it," said Greg Richtarek, vice president of sales for Mirus Industries Corp., a film-recorder manufacturer in Milpitas, Calif.

"In about a half-hour I was using Special Delivery to do presentations," Richtarek said. "[I tried] to do the same thing with [MacroMind-Paracomp Inc.'s] Director, but it was such a bear, I never got past the tutorials."

Special Delivery, due to ship in April for less than \$500, gives users four views in which to create and display their slides. The Format view allows users to create Portals — graphical zones that contain images, text or movies, or serve as buttons.

In the Button view, users create the relationships between Portals by drawing lines from a controlling Portal (button) to a slave Portal



Interactive Media's Special Delivery lets users incorporate QuickTime movies into their presentations. Users also can add buttons to their slides that start, stop, rewind or fast-forward a movie.

(usually a display zone). Several controlling Portals can act on one slave Portal, such as the buttons used to run a QuickTime movie.

Special Delivery also lets users edit QuickTime movies. Users can set start and end points for a movie, change the sound track, loop a movie a specified number of times, or play a movie for a specified length of time.

The program also has a Notes view for entering text about a slide and a Presentation view for running a slide show. A presentation map displays thumbnails of all the slides in a show.

Special Delivery requires System 7. Interactive Media Corp. is at P.O. Box 0089, Los Altos, Calif. 94023-0089. Phone (415) 851-4896; fax (415) 964-9870. □

Varityper sets new pricing low; Imagesetter line starts at \$22,000

By Matthew Rothenberg

East Hanover, N.J. — Varityper Inc. has lowered the price of high-end output with a new line of PostScript imagesetters that starts at less than \$22,000.

Scheduled to begin shipping by the end of the month, the 4990 line includes:

► The 4990A Imagesetter, priced at \$21,995, which outputs to infrared-sensitive resin-coated paper, polyester film and plate material up to 13.3 inches wide at resolutions of 1,200 or 2,400 dpi.

The 4990A incorporates the same imaging technology as the higher-end Varityper systems (see MacWEEK, Feb. 6, 1990), although it lacks expansion options for a film recorder or plain-paper output, an Ethernet interface and an Emerald RIP (raster image processor), the company said.

The new imagesetter includes an 8-Mbyte Atlas RIP; a 42-Mbyte hard drive, which can be upgraded to 107 Mbytes for \$1,495 when ordering or as a field upgrade for \$1,995; a 107-Mbyte page-buffer drive that permits continuous output; 35 Type 1 fonts; and LocalTalk, RS-232 serial and Centronics parallel interfaces.

The 4990A can output 1,200-dpi images at up to 20 inches per minute and 2,400-dpi images at 10 inches

per minute, according to Varityper.

► The 4990S Imagesetter, priced at \$25,995, which will ship with an 8-Mbyte SpeedPlus RIP and a 107-Mbyte RIP disk drive; 4990A owners will be able to upgrade to the 4990S for \$3,500, Varityper said.

See Varityper, Page 30

MacRenderMan picks up speed with Unix rendering application

By Neil McManus

Richmond, Calif. — MacRenderMan will speed up by five to 50 times with a new application that offloads rendering tasks to Unix workstations.

Pixar this week will ship NetRenderMan 1.0 for \$995. The program lets Mac users tap the CPU horsepower of workstations such as the Sun SPARCstation, NeXTstation, Silicon Graphics IRIS or Indigo, DECstation, Hewlett-Packard 9000, and IBM RISCStation 6000.

NetRenderMan requires MacRenderMan 1.1, a \$995 Mac-based renderer that comes bundled with Showplace, Pixar's 3-D modeling program.

NetRenderMan users access their Unix workstation through the Mac's Chooser. Thereafter, the new networking program works transparently behind the scenes of MacRenderMan, according to Pixar.

NetRenderMan unloads rendering tasks wholesale to workstations. This sets it off from competing distributed processing systems from Ray Dream Inc. and Strata Inc., which parcel out pieces of a rendering job to other Macs on the network (see MacWEEK, Aug. 6, 1991). Pixar plans to release a distributed rendering version of NetRenderMan in May.

Pixar's Unix-based system is "a more elegant solution" than Mac-based distributed rendering, said beta-tester Charlie Brown, 3-D systems manager at Midwest Litho Arts, a pre-press house and service bureau in Des Plaines, Ill.

"All you see with NetRenderMan is your Mac going a lot faster. Instead of clump, clump, clump, slowly painting the screen, it just flies through a rendering job," Brown said.

Pixar is at 1001 W. Cutting Blvd., Richmond, Calif. 94804. Phone (510) 236-4000; fax (510) 236-0388. □



Pixar's Joy Falla used NetRenderMan to render this image in eight minutes on a Silicon Graphics Indigo workstation. The same image took one and a half hours to render on a Mac IIx.

Bringing video on board Macs



By Steve Rosenthal

Moving video images are swiftly becoming just one more digital data type on the Mac. With advances in image compression and storage, as well as faster transfer paths, hardware and software designers can offer Mac users better ways to clip out moving images, edit them and integrate them into Mac presentations.

Although many products and standards are still not quite ready for prime time, prospective buyers will have to choose among some very different methods for bringing

See Video, Page 32

Mac hits the high notes at NAMM music expo

By Dartanyan L. Brown and Erik Holsinger

Anaheim, Calif. — Joining the big hair and bigger amplifiers at last month's National Association of Music Merchants' winter exposition was the Macintosh, powering an ever-growing array of hardware and software for music and multimedia applications.

Several vendors demonstrated Mac products at the expo.

► J.L. Cooper Electronics of

Los Angeles showed its Media Control Station, a \$269.95 device that incorporates a jog/shuttle wheel for precise control of disk-based digital recording systems, multimedia software and desktop video systems.

► Opcode Systems Inc. of Menlo Park, Calif., announced the Studio AV series of videotape transport controllers for audio/video applications. Due to ship in April, Studio AV (\$1,495) controls

one audio or video deck from the Macintosh, while the Studio AVx (\$995) controls additional decks.

Although Studio AV systems can be controlled independently, the Opcode units also can be controlled from within Vision, the company's \$495 professional music-sequencing program.

► Roland Corp. US of Los Angeles showed Sound Brush, a \$695 half-rack MIDI (Musical Instrument Digital Interface) playback sequencer that allows easy access to standard MIDI files. Sound Brush operates like a CD player, even down to its infrared remote control.

The company also displayed Sound Canvas, a \$795 desktop sound module that contains 317 different instrument sounds that

See NAMM, Page 31

Studio AV and AVx give multimedia producers a video deck transport control that reads and writes VITC timecode and connects to the Mac via MIDI.



SuperMac Announces More Bang For Less Bucks.

For the past year, SuperMac™ cards and displays have been blasting the reviewers out of their seats—with record-setting performance and quality. But there's been one last barrier to shatter: *price*. Get set for the explosion! We've just lowered our prices by as much as 40%, so you can put SuperMac's award-winning products to work—now—in color publishing, digital video, and business productivity. More than ever before, SuperMac is the industry's price/performance leader; the *one* name that stands for **color ... speed ... power ... and affordability!** For the location of your nearest SuperMac reseller, call: **1-800-334-3005** or **408-773-4498** (outside U.S.).

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MacWEEK Review

"The editor's choice: 21" SuperMatch™ display with a Spectrum/24™ PDQ board or, better yet, the super-fast Thunder/24™."

Macworld Magazine

"Best Products of 1991 Award: Thunder/24 from SuperMac."

Byte Magazine

SuperMac	Old Price	New Price	Competition	
Graphics Cards				
SuperMac Thunder/24	\$4,999	\$3,499	—	No Competition
Spectrum/24 PDQ Plus	\$3,999	\$2,399	\$3,499	RasterOps 24XLi
Spectrum/24 Series III	\$2,499	\$1,699	\$1,999	Radius PrecisionColor 24X
Spectrum/24	New	\$1,199	—	No Competition
Spectrum/8•24™ PDQ	\$1,399	\$ 999	\$1,499	RasterOps 8XLi
Color Displays				
SuperMatch 21" Two-Page	\$4,400	\$3,649	\$4,499	RasterOps 21" Color Monitor
SuperMatch 20" Trinitron®	\$4,200	\$2,999	\$4,299	RasterOps 19" Color Trinitron®
SuperMatch 20"	\$2,800	\$1,999	\$2,499	Radius PrecisionColor Display/19
SuperMatch 17"	New	\$1,199	\$1,549	Radius Color Pivot



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Agfa to slide out new film recorder

By Matthew Rothenberg

Orangeburg, N.Y. — Agfa is developing a new midrange high-speed 24-bit-color film recorder.

Slated to ship next month for \$13,500, the floor-standing PCR II records to 35mm film at resolutions of up to 4,096 vertical lines in 62 seconds, Agfa said. With rasterization, the film

recorder can produce a typical business slide in less than 90 seconds, according to the company.

The PCR II also includes a hardware pacing feature that matches the recording speed to the rate of rasterization, eliminating imaging artifacts, Agfa said.

The device supports Agfa's \$495 Mac Conductor software, which uses the Mac to raster-

ize PICT and TIFF files, as well as the ChromaScript II, a \$18,750 stand-alone PostScript RIP (raster image processor) built around a Motorola 68030 chip.

It includes SCSI and General Purpose Interface Bus (GPIB) ports and comes with a 36-exposure 35mm camera back. Users also will be able to purchase options such as a 750-exposure bulk loader, a 70mm attachment, a 3.5-by-4.5-inch camera for Polaroid prints and transparencies, and a 4-by-5-inch chrome transparency attachment, Agfa said. Prices for

these options have not been established.

According to Product Manager Bernie Lepore, the PCR II is designed specifically for start-up service bureaus or corporate production departments whose primary output is 35mm slides. "It's a great 35mm slide camera with the ability to do other formats occasionally," Lepore said.

Agfa, a division of Miles Inc., is at 1 Ramland Road, Orangeburg, N.Y. 10962. Phone (914) 365-0190 or (800) 288-4039, fax (914) 359-3201. □

MediaTree manages multimedia in outlines

By Carolyn Said

Andover, Mass. — Tulip Software is promising to provide a fertile ground for multimedia with MediaTree, a \$248 tool for organizing sounds, pictures, QuickTime movies and text.

MediaTree, scheduled to ship this month, arranges media items in an outline, which lets users organize information according to any desired hierarchy of categories. Users can nest topics or levels, hiding unneeded details.

MediaTree can store the actual data or store links to data in separate files, even on unmounted volumes. For example, a single MediaTree document could organize all the media in a dozen CD-ROMs. Users double-click on thumbnails of items to open them. If the item is on an unmounted volume, MediaTree will indicate which disk to mount. The program, which requires System 7, uses aliases to find files.

The outline approach distinguishes MediaTree from other cataloging programs, such as Multi-Ad Search from Multi-Ad Services of Peoria, Ill., or Mariah from Symmetry Software Corp. of Scottsdale, Ariz., according to Ed Anson, Tulip president.

The program automatically catalogs the contents of a folder or disk after users drag its icon onto the MediaTree icon. Information in each file's Comments and Find Info is automatically cataloged as well, enabling users to perform keyword searches. Files also can be tagged manually with keywords.

Tulip Software is at P.O. Box 3046, Andover, Mass. 01810. Phone (508) 475-8711. □

Varityper

From Page 28

► The 4990K and 4990C, to list for \$41,995 and \$27,995, respectively, which will include the features of the 4990S but add composite font support for ideographic characters, such as kanji, Chinese and Korean. In addition, the 4990K will include five PostScript kanji fonts.

According to Steve Edwards, editor with the Seybold Report on Publishing Systems, based in Media, Pa., the pricing of Varityper's new 4990 imagesetter family is "really quite impressive because there are currently two alternatives on the entry-level imagesetter market: those from major companies, such as Agfa, Linotype and Varityper, and others somebody assembled in a garage or something."

"You haven't been able to get imagesetters from Agfa, Varityper and the like for less than \$28,000," Edwards said. "This is a major entry into the low-end imagesetter market because it comes from a vendor with lots of users that is known for its support."

Varityper Inc. is at 11 Mount Pleasant Ave., East Hanover, N.J. 07936. Phone (201) 887-8000 or (800) 631-8134. □



OCEANOGRAPHER HANS JANNASCH,
LIKE 9 OUT OF 10 MAC® SPREADSHEET USERS,
CHOSE MICROSOFT EXCEL.

Spectra*Star printer doubles as film recorder

By Matthew Rothenberg

Berkeley, Calif. — General Parametrics Corp. has enhanced the image of its Spectra*Star 400 color thermal-printer line with a new 24-bit model that does double duty as a film recorder.

The new Spectra*Star Model 450, available now for \$14,990, is a RISC (reduced instruction set computing)-based PostScript-compatible

printer that can print 300-dpi color images measuring up to 8.13 by 10.82 inches. The printer outputs a color page in 45 to 60 seconds.

The Model 450 includes a 20-MHz Intel 80960 RISC chip; serial, parallel and AppleTalk interfaces; a 32-Mbyte internal hard disk for downloaded fonts and print spooling; 35 Type 1 fonts; and 6 Mbytes of

RAM, expandable to 10 Mbytes. It employs PowerPage PostScript emulation from Pipeline Associates Inc. of Morris Plains, N.J.

The Model 450 ships with the company's SlideMaker film recorder and a controller board that allows the printer to run it. The SlideMaker includes a 35mm camera back and captures 24-bit-color images at resolutions of up to 4,096 vertical lines. Imaging time ranges from about 70 seconds to several minutes, according to General Parametrics.

"You can take a PostScript image, proof it

on paper or overheads and check the colors," said Jim Chandler, Spectra*Star product manager. "When your colors are looking good, you can output it on film; for under \$15,000, you get a PostScript printer and a PostScript film recorder all in one."

Owners of the Spectra*Star Model 440 can upgrade to the Model 450 for \$6,995; upgrades also are available for the models 410 and 430.

General Parametrics Corp. is at 1250 Ninth St., Berkeley, Calif. 94710. Phone (510) 524-3950; fax (510) 524-9954. □

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Cricket Draw II leaps into market

By Carolyn Said

Garden City, N.Y. — Cricket Draw has jumped back onto dealers' shelves in a new version.

Computer Associates International Inc. recently shipped CA-Cricket Draw II, a rewritten version of the object-oriented PostScript drawing program (see MacWEEK, Nov. 5, 1991).

The \$249 software offers an intuitive user interface, extensive Bezier tools, object-to-Bezier path conversion and comprehensive text manipulation. Any object created with Cricket Draw II is a Bezier object and can be edited by double-clicking to display a dialog box. Users can alter attributes such as fill color and line width from the dialog box.

Cricket Draw II, which supports 32-bit color, features an interactive floating color window that lets users select colors from various color models. Users also can create and save tables of custom colors and select colors from a table of Pantone Matching System swatches. Dynamic color sliders allow users to select and edit colors in any model.

Cricket Draw users can upgrade for \$49.

Computer Associates said that Version 2.0 of CA-Cricket Graph, its graphing and charting package, will ship in April.

Computer Associates International Inc. is at 711 Stewart Ave., Garden City, N.Y. 11530-4787. Phone (516) 227-3300; fax (516) 227-3937. □

NAMM

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can be grouped to 16 outputs (eight channels with two sounds per channel). Both Roland products are now shipping.

► **PassPort Designs Inc.** of Half Moon Bay, Calif., previewed Producer, a multimedia scheduler, due in May for less than \$1,000. Producer works from a cue-sheet format, allowing the user to sequence and integrate different sources of video and audio information from a single control interface.

Producer supports QuickTime movies, MIDI sequences, digital audio files, CD-based audio files, laser disc and Sony VISCA (Video System Control Architecture)-based video, as well as Microsoft PowerPoint and Aldus Persuasion files.

► **Mark Of The Unicorn Inc.** of Cambridge, Mass., demonstrated its upcoming \$1,895 Digital Performer recording system. Consisting of a NuBus card and software, the system will use a digital audio tape machine to provide a relatively inexpensive route into the world of digital recording, the company said. MOTU also demonstrated Mosaic, music transcription software, due later this month for \$495. □

Video

From Page 28

digital video to the desktop.

"It's a good time to get involved," said Geoffrey Katz, studio director of the Digital Imaging Studio at Foote, Cone & Belding Communications Inc. in San Francisco.

For digital video products on the Macintosh, the most basic division is between still-image and QuickTime-oriented boards on one hand and boards designed for full video rates (see story at right) on the other. The less pricey boards use circuits of moderate complexity to capture draft-level and scaled-down video of limited fidelity, size or frame rates — such as one-sixteenth of a frame at 15 frames per second. The more costly full-motion boards add hardware chips and more-robust compression/decompression schemes to capture and manipulate the full video data stream.

Slowing down for QuickTime.

For Jon Farhat, a production designer at Dream Quest Images of Simi Valley, Calif., who uses a QuickImage 24 board from Mass Microsystems Inc. of Sunnyvale, Calif., grabbing stills is enough. Because he doesn't intend to show

the results as moving video, he doesn't need to grab images at full speed. "It's a perfect fit" for creating previsualizations and animations based on clips from Hi-8 video images, Farhat said.

Even for moving video, if digital video images are going to be played back under QuickTime without special hardware assistance, full-screen 30-frame-per-second image capture isn't really necessary.

QuickTime-oriented digital video boards, such as the VideoSpigot board from SuperMac Technology of Sunnyvale, Calif., or Mass Microsystems' QuickImage 24, will digitize video at rates close to QuickTime's basic playback rate.

You may not always get smooth motion from these boards, said Karen Dillon, manager of product marketing for SuperMac, but once the video is brought in through QuickTime, it can be clipped, edited or displayed on Macintoshes without special videographics hardware. "It's like other forms of data," she said. "It comes from my hard disk. I watch it, manipulate it and put it back on my disk."

Full speed aboard. Full-motion boards use high-performance

Desktop digital video

SYSTEM	FRAME RATE*	SCREEN SIZE	COMPRESSION TYPE
Avid Avid Technology Inc.	30	Full screen	JPEG
EyeQ New Video Corp.	30	Full screen	DVI
Media 100 Data Translation	30	Full screen	JPEG
QuickTime Apple	15	1/4 screen	Proprietary

*Frames per second.

compression/decompression chips and attempt to produce a digital signal good enough to use as a stand-in or substitute for the full video signal in editing or presentations.

Some boards — such as the compression boards Avid Technology Inc. of Burlington, Mass., is using on its Media Composer editing systems and Digital Film, a system SuperMac is developing — implement a form of the JPEG (Joint Photographic Experts Group) standard for still images running at speeds of

up to 30 frames per second. Media 100 from Marlboro, Mass.-based Data Translation Inc. is now offering full-motion, full-screen video and can output to tape (see MacWEEK, Jan. 6).

As an alternative, New Video Corp. of Venice, Calif., has started shipping its EyeQ Delivery board based on Intel Corp.'s DVI (Digital Video Interactive) chip set. The board, which supports compression ratios of up to 160-to-1, can provide VHS-quality video at full-screen sizes using data played back from CD-ROMs or from other sources running at similar rates.

And, said New Video founder and chief scientist William Fulco, by using the same chip and the same file formats that Intel and IBM Corp. are supporting on the PC, DVI-compressed files are "completely cross-platform compatible."

Chips and more mips. While compression methods are sometimes tied to specific chips, for other board makers, providing more-flexible silicon on the board is also becoming a key distinguishing characteristic.

Most of the JPEG-oriented boards announced so far use hard-wired compression chips from C-Cube Microsystems Inc. of San Jose, Calif. Making any major change in the compression algorithm requires new chips or new boards.

New Video and other proponents of the DVI approach note that their Intel chip is programmable, which allows users to add software to adjust to evolving standards or advances in compression.

A forthcoming as-yet-unnamed digital video board from Radius Inc. of San Jose, Calif., based on technology the company bought earlier from Apple, does programmability one better, using a high-performance digital signal processor (DSP) to manipulate the video signal.

Going in the other direction, Intelligent Resources Inc. of Northbrook, Ill., developed an extensive set of custom application-specific integrated circuit (ASIC) chips for its Video Explorer board, which it claims is the best way to get the processing throughput need-

Definition differs on full motion

Most people know full-motion video when they see it, but precisely what data rate qualifies as full-motion video is often a matter of who is providing the definition.

Based on the standard NTSC (National Television System Committee) video signal used in this country, a full-motion image would have at least 30 frames per second, at 700 to 1,500 pixels wide by 400 to 500 pixels long with 16 bits of data per pixel.

The result: Any board that digitizes or reconstitutes video must push through 20 to 40 Mbytes of video information per second.

Unfortunately, that rate of data would quickly fill any type of Mac-based storage, and it's too fast to store on a Mac hard disk or ship across the Mac's NuBus connections. Because a standard CD-ROM drive can supply data at only about 150 Kbytes per second, video must be highly compressed to be played from CD-ROMs or similar types of media.

—By Steve Rosenthal

SCREEN TEST**Hey, hey, it's the Monkees — playing on the Mac**

Selinsgrove, Pa. — The Macintosh has been a stepping-stone for designer Alan Green as he documents the history of the Monkees' musical TV series.

To commemorate the 25th anniversary of the show, Green, owner of Click Publishing here, and Monkee Davy Jones are collaborating on a book titled "Monkees, Memories & Media Madness," an illustrated history of the made-for-TV band, who outsold both The Beatles and The Rolling Stones combined during 1966 and 1967.

Green, who said the book aims to echo the pioneering spirit of the TV show, is something of a Mac pioneer himself.

Four years ago, he co-wrote and produced another book about Davy Jones, "They Made A Monkee Out Of Me," using Letraset's Ready, Set, Go! on a Mac Plus.

"I just got hooked on it and realized there were all kinds of possibilities," Green said.

Green's two-person company now has a Mac II, IIfx and IIfx, as well as an Agfa Compugraphic 9000 imagesetter. "Monkees, Memories & Media Madness" is a 10-inch-square, full-color book featuring Davy Jones' own collection of photos digitally altered with a variety of Mac software.

In addition to joining forces with a team of 11 designers from Sunbury, Pa.-based Phase One Graphics, Click Publishing solicited contributions from 17 noted computer artists, including Tom Cushwa, Mai-Ying Dell'Aquila, David Biedny, John Knoll, Ron Meckler, Don Woo, Phillip Jordan and Jeff Beard.

Green said he wanted to achieve an eclectic combination of styles and emulate the diversity of the TV show.

"In the original show, it became sort of a hip thing for various celebrities to 'guest' on the show. We wanted to do the same sort of thing with artists," Green said.

For this image, which was designed by Donald Rea of Phase One Graphics, Green colorized black-and-white photos of Jones in Adobe Photoshop and used the Watercolor, Smudge and Emboss filters in the Aldus Gallery Effects Photoshop plug-in to liven up the photo.

Green said the photo had few redeeming qualities to begin with. "Gallery Effects is really a terrific addition to Photoshop," Green said.

"There's a lot more intricate capability to fine-tune the filters. The Emboss filter really allows you to determine light source, angle and pixel height."

—By Jennifer Ambrulevich



“On Wednesday, I heard something big was in the works between Connectix and Apple. They were sitting on a hot story. Time was tight for next week’s issue, so I started making calls. By Thursday morning I had the basics and cleared space on page one. I pushed for an advance release from Connectix and Apple and got it—minutes before we went to press. With the facts confirmed, the story made MacWEEK’s front page Monday morning.”

—HENRY NORR, MACWEEK EDITOR



THE CONNECTIX/APPLE DEAL. JANUARY: In a series of special reports on System 7, MacWEEK reveals that 73% of MVBs surveyed had “dirty” ROMs. User concern mounts as the System 7 release nears. Meanwhile, Connectix continues development of MODE32, the program that enables users to run System 7 in 32-bit mode. **MAY:** Connectix releases MODE32, enabling millions of Macs to use Apple’s standard 32-bit mode and get complete System 7 compatibility. **JULY 16:** MacWEEK writes: “In our tests, MODE32 was completely solid. The software delivers exactly what it says it will.”

THE VALUE OF THE WEEKLY. WEDNESDAY SEPTEMBER 4: Editor Henry Norr: “I heard something big was in the works between Connectix and Apple. They were sitting on a hot story. Time was tight for next week’s issue, so I started making calls. **THURSDAY SEPTEMBER 5:** Connectix licenses MODE32 to Apple. Henry Norr: “I had the most of the information and cleared space on page one. I pushed for an advance release from Connectix and Apple and got it minutes before we went to press.”

MONDAY SEPTEMBER 9: MacWEEK’s cover breaks the Connectix/Apple deal, giving readers the information they need to make buying decisions.

TUESDAY SEPTEMBER 10: The Connectix/Apple press release goes into general distribution. Apple ships MODE32 as a free system upgrade and offers a full refund to everyone who purchased MODE32 from Connectix.

MacWEEK

EDITORIAL

Apple better remember the memory

Computers are supposed to help remove barriers, not build them.

Yet the Macintosh, a computer associated with breaking down the walls between humans and their machines, poses a significant barrier in many of its configurations: memory, or more precisely, a shortage of it.

Although Apple continues to claim that a Mac with 2 Mbytes of RAM can run System 7, its definition of "run" is generous.

You may, in fact, be able to start up a System 7-based Mac with 2 Mbytes of RAM and run a single program if it can live in 750 Kbytes. But the quality of life with that 2-Mbyte Mac falls far short of what an additional 2 Mbytes allows.

To stay competitive with other computers, Macs need the ability to load and switch easily between multiple programs and to use memory-intensive applications such as QuarkXPress or Adobe Photoshop. But programs such as these, as well as most of the new generation of QuickTime editing programs, won't even open on a 2-Mbyte Mac running System 7. You can't have a technological revolution or even evolution if people can't use your technology.

If Apple really wants to see QuickTime change how people use their Macs, the company had better make sure QuickTime will run on all the Macs it ships.

This is why we think all Macs should ship with a minimum of 4 Mbytes of RAM. Of course, customers can order machines with additional RAM from Apple or (at a fraction of the cost) from third-party vendors. But Apple needs to send a realistic message: 4 Mbytes is the minimum; 8 would make life much better.

It's also time for Apple to standardize on the 68030 processor for its low end, at least for desktop machines aimed at the business market. With the Classic II, the company already offers a reasonably priced '030-powered compact model, and this spring the LC will be rejuvenated with the later-generation processor. But the 68000-based Classic, which can handle only 4 Mbytes of RAM, should be retired or repositioned as a consumer product.

Removing limitations is what Macs are all about. Expanding RAM and retiring the 68000 processor would mean that buyers could again have Macs that work the way they expect. □



Letters

INtouch, TouchBASE: Apples and oranges

The comparative review of our INtouch and After Hours Software Inc.'s TouchBASE (MacWEEK, Dec. 3, 1991) was generally accurate, but we were surprised that two products with dissimilar approaches to contact management would be compared head-to-head.

INtouch is designed for those who need speed and simplicity and who don't require the ability to perform mass mailings. TouchBASE's additional sorting and printing capabilities are made possible by the "structured field" approach it requires for entering data and, as with any program using this approach, data entry is slower and more cumbersome.

The review states that TouchBASE's searching is faster than INtouch's searching if you know exactly which field you want to search.

If, however, you are unsure in which field information is placed, or if you need to search your notes, the difference in speed is dramatic. In our test searching all fields in a 2,000-record database, TouchBASE took about 10 times longer. Over the network, the difference was even greater.

Some of the advantages of our alternative approach were overshadowed in the review.

Larry Lightman, president
Advanced Software Inc.
Sunnyvale, Calif.

SCSI termination mystery defies lucid explanation

The story about SCSI bus termination (MacWEEK, Jan. 20) includes the statement, "You can have no more than two terminators in the entire SCSI chain."

Our experience on a Mac IIx running System 6.0.7 is contradictory. On this system, which includes an internal drive, an external drive, a CD-ROM drive and an external box for a color scanner, terminating only the internal drive and the last external device on the SCSI chain caused the system to fail to recognize the internal drive. Only when we terminate a third device in the chain does the system recognize all the attached SCSI devices.

This solution, by the way, was

discovered only after extensive sleuthing with the help of the excellent La Cie Silverlining technical-support staff.

Stephen T. Tokar
Academic computing consultant
University of Pittsburgh

Don't forget Outbound when covering laptops

The review of the PowerBooks (MacWEEK, Jan. 6) reminded me of a curious fact. Apple's belated introduction of a line of laptop Macs has apparently overshadowed the Notebooks from Outbound Systems Inc., and I think that's a disservice to everyone.

The latest versions of these remarkable machines have advantages over the PowerBooks in addition to the features and price advantages MacWEEK reported in a news story in the same issue.

Outbound Notebooks can connect directly to any Mac's SCSI port, mounting all its drives onto the host Mac's desktop for direct file access. A big screen can be connected to the Outbound's SCSI port, and a large keyboard can be connected to its Apple Desktop Bus port. You can use standard low-power SIMMs (single in-line memory modules) to expand the Notebooks' memory instead of the special expensive RAM the PowerBooks require.

The Notebook's camcorder battery is cheaper and easier to find than the PowerBook NiCad battery. Plus it does not become an environmental hazard requiring special handling as the spent NiCad battery does.

And finally, only the Outbound Notebook runs System 6 or System



7. Despite all the System 7 hoopla, System 6 is what a very large body of Mac users still prefer.

So when you describe how a third-party product works with the PowerBooks, please also note how this product works with the Notebooks. Or, more likely, describe the better alternative Outbound probably already has working.

Gary C. Van Handel
Sacramento, Calif.

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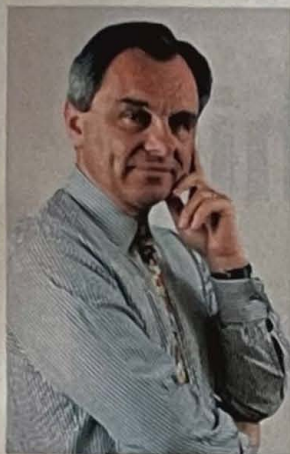
years ago in MacWEEK

Feb. 9, 1988: Apple will roll out A/UX at the UniForum trade show this week, but developers eager to take advantage of a fully functional Mac Toolbox will have to keep waiting.

In retrospect: A/UX has become an excellent Unix implementation, but its users, a patient lot, are now awaiting Version 3.0 and its promised System 7 compatibility.

Commentary

How much should Apple worry about NeXT?



JEAN-LOUIS GASSÉE

Well into its seventh year, NeXT Computer Inc. recently announced new CPUs, new software, a color printer, the now *de rigueur* Intel port and a new strategy. Sales figures, according to the company, were about \$127 million for 1991, roughly four times the previous year's revenue.

While these numbers would be more informative if they came with a complete audited income statement, they raise the question of NeXT's much awaited breakthrough. Is the labor started in 1985 finally paying off, and is NeXT finally about to become a mainstream player? And from whose worthy hide is NeXT's future market share going to come?

If you believe Steve Jobs, the designated adversary is Sun Microsystems Inc. — for now.

Jobs is relying on better programming and communications tools, more mips for the buck, and NeXTstep on 486 boxes months before Sun's Solaris operating system makes the Intel leap. We can count on Sun's equally frank CEO Scott McNealy to provide equally objective comparisons.

Missionary objects. NeXT's new strategy is to gain a Trojan niche

in the corporate world via mission-critical custom applications built with NeXTstep's object-oriented programming tools. Once NeXT is entrenched and worshipped for its object-based development environment and applications, it could invade the rest of the desktops with the blessing of the IS organizations.

With this in mind, and the fact that, of all the workstation vendors, Sun appears to have had the most success in winning non-engineering "seats," it is no wonder that NeXT chose to do battle with Sun. Furthermore, size and focus figure into NeXT's choice of targets. Sun is about 30 times bigger than NeXT and, unlike Hewlett-Packard Co. or IBM Corp., it is only in the business of workstations. Good for clean polarization. Jobs this time must be following Nietzsche's advice about the enlightened choice of one's enemies.

OS collision course. But what about two or three years from now? Isn't NeXT after someone else's business then? Unless NeXT makes yet another change in its strategy, it is not attacking Sun's traditional engineering applications business.

One of Jobs' recent remarks contrasted the past goal of putting a computer on every desk with today's hope of having only one per desk. Which returns us to the intersection between the personal computer and workstation markets so many companies seem to be trying to grasp.

In two or three years we'll have the following environments: ACE (if it still exists), SCO Unix (available today), Windows and Windows NT, SunOS/Solaris, Taligent's Pink (perhaps in two "personalities," one from Apple, one from IBM), NeXTstep, A/UX, and System 7 or 8 on 680x0 and RISC (reduced instruction

set computing) architectures.

I must be forgetting some Unices, and I'm not counting the pen-based or other more specialized operating environments. How customers will deal with this abundance of choices is another story.

In this time frame, NeXT is on a collision course with three major software players: Sun, Microsoft Corp. and the Apple-IBM alliance. Now, pray tell, which one looks like the easiest future target? Sun and Microsoft are both going about their business unfettered; they are mean and in control of their work, just like NeXT, which may not be profitable like the others but appears to be charting a purposeful course.

Pink vs. NeXTstep. Contrast this with the structural problems bundled with the three-way association of Taligent, Apple and

IBM. The adversaries change.

Pink and NeXTstep inevitably pursue the same goal: improving the three dimensions of personal computing — ease of use, expressive power and ease of programming. What else when hardware power is equally accessible?

Today's Apple business is not at stake. NeXT is not capable of competing in the current mainstream of the personal computer business. But if NeXT delivers what it promises, more or less on time, it might be Pink's biggest competitor.

There are many ifs involved. For example, what if the macho arguments over kernels disappeared between Sun and NeXT and, instead, today's adversaries collaborated? Unlikely, but not out of the question. Meanwhile it will be interesting to watch the various players make their moves over the next few years. □

The Mac Manager

New Year's resolutions: Time to make 'em, keep 'em

I usually like to wait until after January before I make my New Year's resolutions. That way I can avoid any high-minded plans I'd probably break anyway, while getting a handle on what would make me a better Mac manager for the rest of the year.

To help me stick to my guns and, I hope, to provide some tips you can apply to your own situation, I offer up my list of resolutions.

In order of priority. My first resolution is the most important, namely:

► Buy my staff the equipment they need, not the equipment that seems to satisfy some nebulous kind of job description.

One case in point: the new PowerBooks. The problem is that

some Mac managers are buying and distributing PowerBooks as objets d'art, something to adorn the offices of well-heeled colleagues or top managers.

Of course, I recognize that sometimes Mac managers have no choice in the matter. A number of corporate honchos have begun to view Apple's PowerBooks as the ultimate icon — a physical manifestation of their importance and power. And when you report to that honcho, it's hard to say "no."

Even so, we have to resolve to pass on these cleverly designed notebooks to the users who actually need them.

For my resolution, I promise to avoid this warped thinking.

► Create real training programs. Actually, creating training programs is only half of the equation. The other half is making sure the support staff and users have the time to take the training and digest it properly.

I've harped on this before and I'll probably harp on it again. Having good training programs is so important that I keep it in my list of ongoing resolutions.

I hope you do, too.

► Look for new solutions to old problems. Once we think we have solved a problem, we all tend to get comfortable. Unfortunately, that often makes an expedient solution a permanent one.

For example, if you thought your SQL-based client-server system was the only way to support critical decisions, think again.

The industry is ever-changing, with the availability this year of new software that will complete the server connection without SQL.

Check out, for example, companies such as Mitem Corp. of San Jose, Calif., and Fairfield Software Inc. of Fairfield, Iowa. Ask these companies for a demo.

My resolution, then, is to look at problems from new angles.

► Convert to System 7. What's been holding you back? If it's been concern about software compatibility, your worries should disappear in 1992 as virtually every developer gets out System 7-compatible or even savvy software.

The benefits of System 7 far outweigh its few negatives, even for installations of Mac Pluses. Sure you need to buy more memory, but RAM is incredibly cheap.

And look at it this way: Apple historically has trouble supporting more than one operating system at a time.

This year, I resolve to complete my shop's conversion to System 7.

Track your progress. I'm going to be optimistic and assume you all will take my resolutions to heart.

The next stage, though, is what really counts: Review your progress during the course of the year. If you find yourself sliding down on one or two points, maybe you didn't really need to address those resolutions anyway.

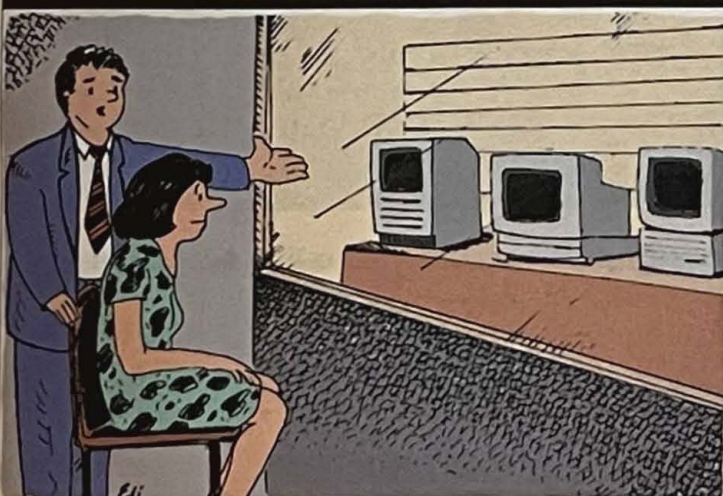
I have found I can be too ambitious when it comes to management resolutions. I suspect others are too. Still, the fact that these resolutions are so hard to accomplish offers some measure of their importance.

It doesn't have to be all uphill, though. After all, we can make up in 1993 what we overcommitted to in 1992. □



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1 Your company's primary business activity at this entire location:

(Select one only.)

Write Answer Here →

Non-Computer Related

- 01. Aerospace
- 02. Architecture, Engineering
- 03. Research and Development
- 05. Communications: Graphic Arts, Publishing, Advertising, Public Relations, Promotion
- 06. Government
- 08. Manufacturing
- 09. Education
- 10. Finance: Banking, Accounting, Insurance, Real Estate
- 11. Health, Medical, Legal

- 12. Non-Computer Retailer, Wholesaler, Distributor
- 13. Agriculture, Mining, Construction, Oil, Transportation, Utilities

Computer Related

- 20. VAR/VAD
- 21. Retailer/Distributor
- 22. Systems House/Data Processing Service
- 23. Manufacturer (Computers, Software, Peripherals)
- 24. Computer Consultant
- 25. Other Businesses & Services (please specify)

2 Your Professional Title:

(Select one only.)

Write Answer Here →

- A. Chairman/President/Owner/Partner
- B. VP/General Manager/Controller/Treasurer
- C. Director
- D. Mac/Micro Manager/Specialist/Coordinator
- E. Network Manager
- F. Project Manager
- G. Art Director/Graphic Designer/Artist/Illustrator
- H. Manager/Supervisor (not listed above)
- I. Architect/Engineer

- J. Systems Analyst/Programmer
- K. Consultant/Advisor
- L. Scientist
- M. Educator
- N. Editor/Writer
- O. Professional (Doctor, Lawyer, etc.)
- P. Accountant
- R. Representative
- Z. Other (please specify)

3 Your department/function at this entire location:

(Select one only.)

Write Answer Here →

- A. Engineering/Systems Engineering
- B. Research & Development
- C. MIS/DP/Information Systems
- D. Communications/Publishing/Public Relations
- E. Art/Creative Design
- F. Manufacturing/Operations/Production
- G. Sales/Marketing

- H. Administration/Management/Personnel
- I. Accounting/Finance
- J. Education/Training
- K. Science
- L. Consulting
- Z. Other (please specify)

4 Are there Macintoshes or other PCs listed below owned and/or planned for purchase within 1 year at this entire location?

☐ Yes ☐ No

(Write in accurate quantity for all that apply):

	Currently Owned (Quantity)	Plan to Buy (0-12 Months) (Quantity)
MODULAR		
68040 Macintosh	2	
68030 Macintosh IIx / IIcx / IIx3	3	
68030 Macintosh IIsi	4	
68020 Macintosh LC	5	
Macintosh Portable/PowerBook	6	
68030 Macintosh SE/30	7	
Macintosh Classic/Classic II	8	
68000 Macintosh SE / Plus / 512	9	
OTHER		
IBM/Compatible Micro	10	
Workstation (e.g. Apollo, Sun, NeXT)	11	

Please remember to sign and date the form. All questions must be answered completely, and be sure to provide specific numbers where requested. The publisher reserves the right to limit the number of free subscriptions. Thank you.

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5 If your firm's primary business at this location is retailing, reselling or consulting, how many Macintoshes are sold per year?

(Answer one only.)

- A. Retailer: sold per year _____ (specify quantity)
- B. Reseller: resold per year _____ (specify quantity)
- C. Consultant: purchased by your clients through your firm's recommendations per year _____ (specify quantity)
- ☐ D. Not Applicable

6 Please check the Mainframe(s) or Minicomputer(s) at this entire location:

(Check all that apply.)

- ☐ 01. VAX ☐ 02. IBM Mainframe ☐ 03. IBM Minicomputer ☐ 04. Other ☐ 99. None

7 Do you purchase, recommend, specify or approve any of the Macintosh/Compatible products listed below?

Computers

- ☐ 01. Macintoshes
- ☐ 02. Workstations
- ☐ 03. Minis, Mainframes
- ☐ 10. Local Area Networks
- ☐ 11. Modems
- ☐ 13. Communication/Network Software
- ☐ 14. Mac to PC Links
- ☐ 15. Mac to Mini/Mainframe Links
- ☐ 16. Mac to UNIX Workstation Links

Peripheral Equipment

- ☐ 20. Laser Printers
- ☐ 21. Color Printers
- ☐ 22. Color Monitors
- ☐ 23. Hard Disks
- ☐ 24. Backup Systems
- ☐ 26. Scanners
- ☐ 27. Input Devices
- ☐ 28. Removable Storage
- ☐ 40. Memory Boards
- ☐ 41. Graphic Boards
- ☐ 43. Ethernet Boards
- ☐ 44. Video Boards

Software

- ☐ 50. CAD/CAM
- ☐ 51. Graphics
- ☐ 52. Desktop Publishing/Fonts
- ☐ 53. Desktop Presentation
- ☐ 54. Database
- ☐ 55. Programming
- ☐ 56. Accounting, Payroll
- ☐ 57. Spreadsheets
- ☐ 59. Project Management
- ☐ 60. Word Processing
- ☐ 61. Utilities
- ☐ 62. Multimedia
- ☐ 99. None of the above

8 If you answered yes to the above computer products, for how many Macintoshes do you have this involvement?

(Select one only.)

Write Answer Here →

- 01. 1000+
- 02. 500-999
- 03. 100-499
- 04. 50-99
- 05. 20-49
- 06. 10-19
- 07. 1-9
- 99. None

9 Please indicate the networking/communications capabilities that the Macintoshes at this entire location have:

(Check all that apply.)

- ☐ 01. Local Area Network
- ☐ 02. Communicate with corporate workstations, mini or mainframe computers
- ☐ 03. Communicate with remote mini or mainframe computers
- ☐ 04. Communicate with mini
- ☐ 05. Communicate with mainframe
- ☐ 06. Communicate to remote network
- ☐ 07. Other (please specify)

10 Indicate how many employees there are in your entire company:

(Select one only.)

Write Answer Here →

- 01. 1000 or more
- 02. 100-999
- 03. Under 100

11 Please indicate operating systems currently in use at this entire location.

(Check all that apply.)

- Operating Systems**
- ☐ 01. Mac OS
- ☐ 02. Unix
- ☐ 03. System 7
- ☐ 06. Novell Netware
- ☐ 07. Irmalan
- ☐ 08. Unix/NFS
- ☐ 09. Sitka (TOPS)
- ☐ 10. 3Com 3+ System
- ☐ 11. LAN Manager
- ☐ 12. Banyan VINES
- ☐ 13. Appleshare
- ☐ 14. DEC Pathworks
- ☐ 20. Other (please specify)

12 Indicate an additional individual at this location who might qualify for a FREE subscription to MacWEEK:

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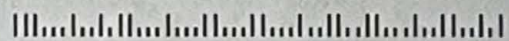
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Reviews

► MacInTax. See Page 42.
► Audio Trax. See Page 43.



DeltaGraph Pro builds on strength

Extensive upgrade enhances picture with new chart types, System 7 support and presentation features.

By Steve Hannaford

DeltaPoint Inc. has thoroughly upgraded DeltaGraph, its best-selling charting package on the Macintosh, in its new release, DeltaGraph Professional. Included among the new features are bolstered business charting and data linking, strengthened technical and scientific graphing, enhanced presentation capabilities, and a forthcoming version for Microsoft Windows.

One gets the feeling that the folks at DeltaPoint are determined to avoid the fate of Computer Associates Inc.'s CA-Cricket Graph, a product that lost its dominating market share simply because it hadn't been upgraded for years. (A new version of Cricket Graph was announced recently, and it should ship in the spring.) DeltaGraph has managed to expand the product without making the interface excessively complex. Current users of DeltaGraph should feel right at home with the new version while being able to take immediate advantage of the expanded features.

For those not familiar with DeltaGraph, the jumping-off point is a solid, flexible, general-purpose charting package with particular strength in creating color 3-D charts. DeltaGraph Professional retains all of the product's earlier functionality: a full range and adjustability of type, lines, colors, patterns, legend placement, drawing tools, templates, and even the offset and direction of drop shadows.

Plotting new courses. In addition to enhanced versions of existing graph types, DeltaGraph Professional includes some new varieties. Most unique of these are bubble plots (where data is plotted by vertical location, horizontal location and radius), ternary plots (where data is plotted on a three-way grid in one dimension) and spider plots (where concentric areas are plotted in terms of their relationship to three or more poles.)

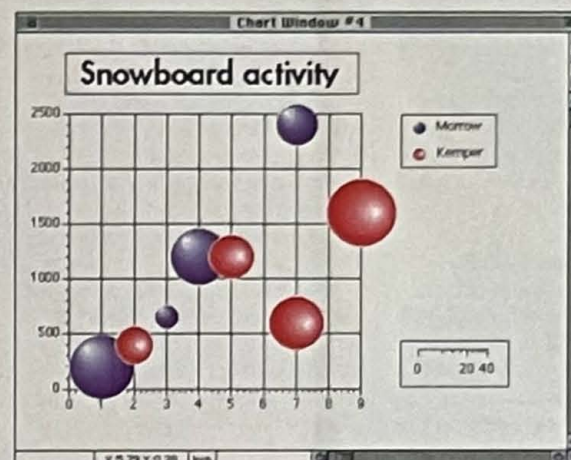
Slicing up pie charts. DeltaGraph Pro offers handsome tables, time-line graphs, text outlines and organization charts.

But DeltaPoint's developers have done more than just add new graph types. For example, the program enhances the tired old pie chart in a way we haven't seen before: the ability to create a series of pies out of data on adjacent spreadsheet columns, all in one swoop. You can make all the pies equal in size or have their sizes reflect the relative values contained in the numeric data. Once they are created, you can set the characteristics of the whole series, including rotation,

labels and depth. This automates an otherwise tedious procedure, in effect fostering a new and effective way of charting business data.

Scientific charting. DeltaGraph also has added some significant functions for scientific graphing (see story, next page). It can now support up to 32,000 data points. It allows for true x, y, z plotting in

See DeltaGraph, next page



DeltaGraph Professional offers the widest range of chart types of any application. One new addition is the Bubble Chart, which graphs variables for x and y positions and radius.

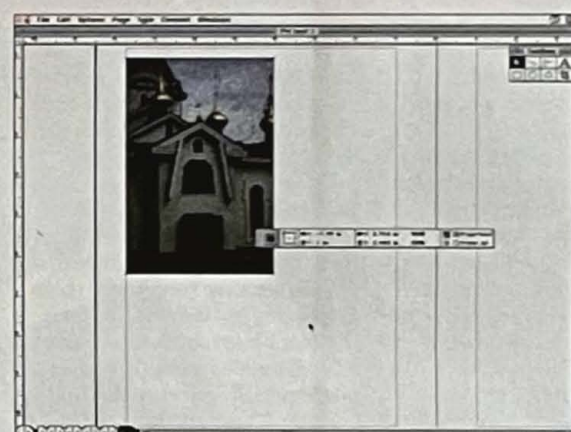
PageMaker 4.2 is a step toward the future

Upgrade is more than incremental

By Bruce Fraser

PageMaker 4.2 is Aldus Corp.'s System 7-savvy upgrade to its desktop publishing stalwart, and it also gives a hint of future directions for subsequent versions of PageMaker. As such, it isn't a major revamping of the product, but it is more than an incremental upgrade. The new features include improved linking to imported graphics through publish and subscribe or Apple events; a Control palette that lets you position, crop and scale objects numerically rather than by dragging; and the inclusion of a scripting language and an extensible architecture called Aldus Additions that lets third-party vendors provide extra functionality to PageMaker.

It's tempting to view the two latter features as responses to Quark Inc.'s QuarkXPress 3.0, which has gained a significant chunk of PageMaker's market of late, but to do so



PageMaker's new Control palette lets you position, resize and crop elements numerically rather than by dragging. The arrow icons also serve as nudge controls.

is to do Aldus a disservice. Rather than playing features wars, the company has continued to build on its strengths. One of PageMaker's strengths has always been its relative ease of integration with other software, and the new version's Edit Original command exploits System 7's interapplication communications capabilities to provide almost seamless integration with graphics applications. Holding down the Option key and double-

clicking on a placed graphic opens the graphic in its original application, where it can be edited. Once edited and saved, the updated version is automatically imported back into the PageMaker document.

Three ways to link. PageMaker offers three methods of linking to graphics applications. The first is through System 7's publish and subscribe mechanism. PageMaker can subscribe to any editions file, with control over whether updates take place automatically or manually. You also can open the publisher file, rather than the edition, in the publishing application by using the Edit Original or Open Publisher commands, or by Option-double-clicking the selected edition.

The second method, hot-linked graphics, currently works only with Aldus FreeHand 3.1 and Fractal Software Inc.'s ColorStudio 1.5 (formerly published by Letraset). Users have expressed annoyance with PageMaker's inability to read FreeHand-format files. That is still the case, but now you can use Edit Original on a FreeHand-generated Encapsulated PostScript file placed in a PageMaker file, and FreeHand will open the original file ready for editing. Once you have edited the file, FreeHand automatically

See PageMaker, next page

SCORE CARD

DeltaGraph Professional



Overall value



Performance



Features



Ease of use



Documentation/support



List price

\$295*

● Excellent ● Very good ● Good
○ Average ○ Below average

*Upgrades from DeltaGraph 1.0 or 1.5, \$69.95.

ON BALANCE

DeltaGraph Professional
Aldus Corp.



DeltaGraph fortifies its role as the premier graphing package on the Macintosh with its new Professional version. With plenty of features for both business and scientific graphers, DeltaGraph is as straightforward to use and easy to learn as its predecessor. In addition, DeltaPoint has created a strong contender for a presentation program, with its very good slide-show tools featuring sound and QuickTime compatibility.

SYSTEM 7 COMPATIBILITY

DeltaGraph Professional

Balloon help	Yes
TrueType	Yes
Publish and subscribe	Yes
Apple events	Yes
32-bit addressing*	Yes

*According to vendor.

SCORE CARD

PageMaker 4.2



Overall value



Performance



Features



Ease of use



Documentation/support



List price

\$795*

● Excellent ● Very good ● Good
○ Average ○ Below average

*Upgrades from PageMaker 4.0, \$85; from PageMaker 3.0, \$150; special rates apply for Aldus' Customer First subscribers.

ON BALANCE

PageMaker 4.2
Aldus Corp.



PageMaker 4.2 is the first System 7-savvy version of PageMaker, and Aldus has gone all-out in exploiting System 7 features, particularly in dealing with placed graphics. You can launch graphics applications from directly within PageMaker, edit a placed graphic and have it automatically updated in the PageMaker document. An extensible Additions architecture, a scripting language and significant performance enhancements show that PageMaker will continue to be a force in the page-layout market.

DeltaGraph From previous page
three dimensions, and it allows for a full range of curve fit options for scatter plots, including user-defined curves.

In addition, a formula editor allows the user to edit the data spreadsheet to allow for complex data transformations involving any arithmetic or logical operations along with some two dozen functions. Elaborate formulas for data preparation are very simple to enter and change.

Input and output. DeltaPoint Professional now is capable of being hot-linked with Microsoft Excel. You do this by saving an Excel document, copying a data range to a data page in a DeltaGraph file, then invoking the Link command. From that point, any changes to the Excel data will update the DeltaGraph data. Any charts based on the data will be upgraded from the new data when the user selects the Update command.

DeltaPoint also fully supports publish and subscribe under System 7, with a choice of automatic or manual upgrading taking place whenever the published Edition file is changed. The program can, for example, subscribe to Excel data files.

In addition, DeltaGraph imports data in a wide variety of file formats, even Trapeze and Cricket Graph, and accepts any data files, whatever the delimiter between fields. Users can import PICT and Encapsulated PostScript files, and even QuickTime movies, which can be incorporated into presentations.

Exports are in PICT, TIFF or Adobe Illustrator 1.1 format for graphics, or most standard spreadsheet-compatible formats for data. Print options include page sizes for 35mm film plus the usual choices.

Presentations. DeltaGraph now offers a presentation module that is essentially a slide show. This simple but slick feature lets you create your on-screen presentation out of any set of charts and graphs, including text only. The "slides" can be arranged by title or graphically, as in most presentation programs. The presentation module includes 32 effects that can be applied individually to each transition between slides. The transitions between slides can be automatic (self-running) or manual, with complete timing control. You also can use sounds (any snd resource) or

record your own sounds (using the Apple microphone or another sound-capture device).

DeltaGraph supplies its own symbol font (in TrueType and PostScript format), allowing the use of a wide variety of resizable data symbols on scatter plots.

The product has an outstanding spelling checker that works in data, text and chart windows. This checker is speedy, offers a great range of smart guesses on spelling errors and is better than many included with popular word processing programs.

Clip art. DeltaGraph Professional also supplies almost 100 library images, (PICT and EPS) in black and white and color, which can be accessed directly from the program. These include common symbols such as national flags, lab equipment, bulls and bears, and business scenes.

Unfortunately, we found the clip art to be only mediocre. Users, however, can create their own libraries incorporating charts, clip-art images and color backgrounds.

Color. The product supports full 24-bit color, but only in limited doses. You can make one custom palette of 16 colors, in addition to the standard 88 supplied colors. The custom palette can be specified in terms of RGB (red, green, blue), CMYK (cyan, magenta, yellow, black) or HSB (hue, saturation, brightness), so you can get some very precise colors for printing and video applications.

Color backgrounds can be created with a wide variety of graduated fills, especially effective for slide creation. These are designed to print well in PostScript.

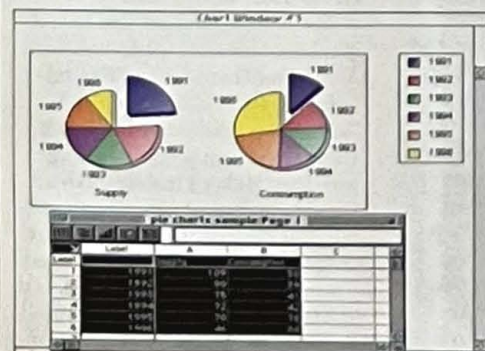
There are a few problems with this color setup. One disadvantage is that it is hard to save the various palettes you create between files, so if you have specific color sets that get reused, you may have to end up entering the same numeric settings more than once. The program has no Pantone compatibility, nor does it use any of the familiar color pickers.

Conclusions. DeltaGraph Professional comes with a manual in perfect-bound format. Inside, the program is well-documented with copious illustrations. Phone support is free, courteous and helpful.

DeltaPoint has done a fine job of adding power and flair to an already outstanding graphing application while keeping it approachable for novice users. DeltaGraph Pro is rich in new features and enhanced older ones.

The company also has been smart in taking advantage of new system features such as QuickTime and publish and subscribe.

DeltaPoint Inc. is at 2 Harris Court, Suite B-1, Monterey, Calif. 93940. Phone (408) 648-4000; fax (408) 648-4020. □



Another new feature of DeltaGraph Pro is its ability to automatically generate multiple pie charts for several columns of data.

DeltaGraph Professional adds technical features

DeltaGraph Professional includes many features useful to scientists creating manuscripts or presentation slides.

Probably the main reason for a scientist, engineer or mathematician to consider moving data from a program such as Microsoft Corp.'s Excel, Wolfram Research Inc.'s Mathematica or National Instrument's LabVIEW into DeltaGraph Professional is the rich variety of chart types available. Besides the standard bar and pie charts, DeltaGraph Pro offers stacked column, bar and pie charts; step charts; paired x, y and scatter charts where sets of x, y data are interpreted correctly as sets; and bubble charts. It also offers contour fill and contour line plots; polar, ternary and spider plots, useful in fields such as chemistry (ternary phase diagrams), electrical engineering (polar phase space plots) and surveying (contour fill maps).

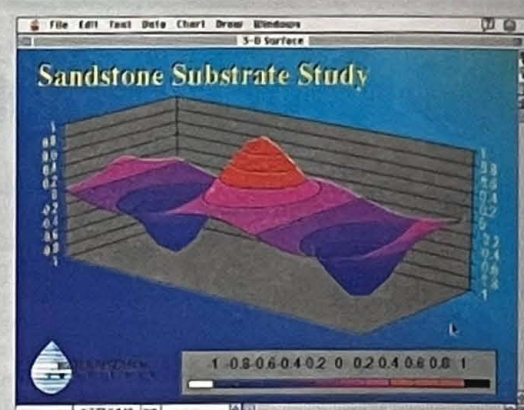
DeltaGraph Pro also offers a rich variety of 3-D graphs. Many varieties of contour, line and scatter graphs can all be generated from 3-D spatial data. While its visualization capabilities are not as complete or immediate as those found in Spyglass Inc.'s Transform, View and Dicer, DeltaGraph Pro can make many 3-D relations come alive.

Textual graphs also can be created by DeltaGraph Pro and are especially useful when creating slide presentations. The Bullet and Table charts will often be sufficient to cre-

ate an entire presentation without a dedicated program such as Persuasion or PowerPoint. DeltaGraph Pro also has a unique facility for creating time lines, very useful for presentations on the history of scientific discoveries.

Plots can be enhanced by adding a line representing a best-fit curve: standard linear, logarithmic, exponential, polynomial and power fits can be requested, or DeltaGraph can generate a fit to a user-defined model. The best-fit curve appears on the graph, and the model coefficients and correlation coefficient are also available. In this way data can be plotted and analyzed at the same time. The user-defined curve-fitting routine has a few important restrictions: Only one independent and one dependent data series are allowed per fit, and models cannot contain complex variables, some higher statistical functions, derivatives or integrals. Most transcendental functions (such as arcsin and log), and some statistical functions (such as zscore and frequency) are supported.

Since physical measurements are



DeltaGraph Pro has expanded scientific graphing capabilities, but it can't match all the functions of technical applications.

only approximations, scientific plots are often considered incomplete without some indication of the size of error. DeltaGraph can create 2-D charts with user-defined upper and lower error values, or it can create error bars from standard error or from a relative or fixed absolute error. Upper and lower errors can be set independently.

Graph characteristics can be adjusted easily to suit the taste of an author or journal and highlight relevant data. Tick marks and grids can be adjusted or hidden as desired. The spacing of both major and minor graduations is adjustable. Tick marks can be placed inside, outside or on the axis line. Axes can be linear or logarithmic, and a second x or y axis can be added with a different scale. — By Linda Custer

PageMaker From previous page

exports an EPS file that is then updated in the PageMaker document. The only disadvantage is that, as before, you must keep the file in both its EPS and native FreeHand formats, but the process is much smoother than before.

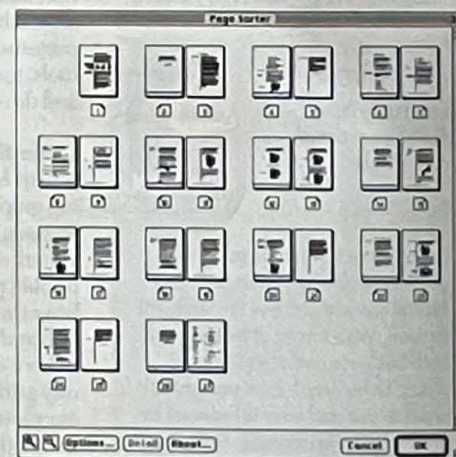
The third method is an extension of PageMaker's previous linking abilities. Edit Original opens the placed graphic in its native application. Again, once edited and saved, it is automatically updated in the PageMaker document.

You also can edit placed graphics in any other application that supports the graphic's file format by holding down the Shift key while choosing Edit Original. You can open placed text in its native appli-

cation using the same command, but in this case, updates do not take place automatically. The edited text can, however, be quickly updated using the Links command. In all, this is a very elegant and worthwhile implementation of Apple events.

The Control palette is the most XPress-like of the new features. It probably won't win any converts from Quark—the preference for one program over the other is rooted as much in personal working style as in the actual capabilities of the two programs—but it may help reverse the flow of customers to Quark that Aldus has experienced over the past year.

The Control palette addresses one of PageMaker's main shortcomings, the inability to position, crop and scale elements numerically. You can choose the center, a corner or an edge of an element as the reference point, and type in precise values to move, crop or scale it. The palette is also interactive: If you move or scale an element by drag-



PageMaker's Sort Pages feature is an Aldus Addition that lets you view the pages in your publication in thumbnail view and reorder them by dragging to a new location.

ging it, the values in the palette change as you do so.

Power by addition. Aldus Additions are add-on modules that add functionality to the program. Additions are installed simply by placing the module into a special folder on your hard disk. Once installed, they appear on a submenu. PageMaker 4.2 ships with six Additions—Balance Columns, Display Pub Info, Drop Cap, Sort Pages, Make Book-
See PageMaker, Page 47

SYSTEM 7 COMPATIBILITY

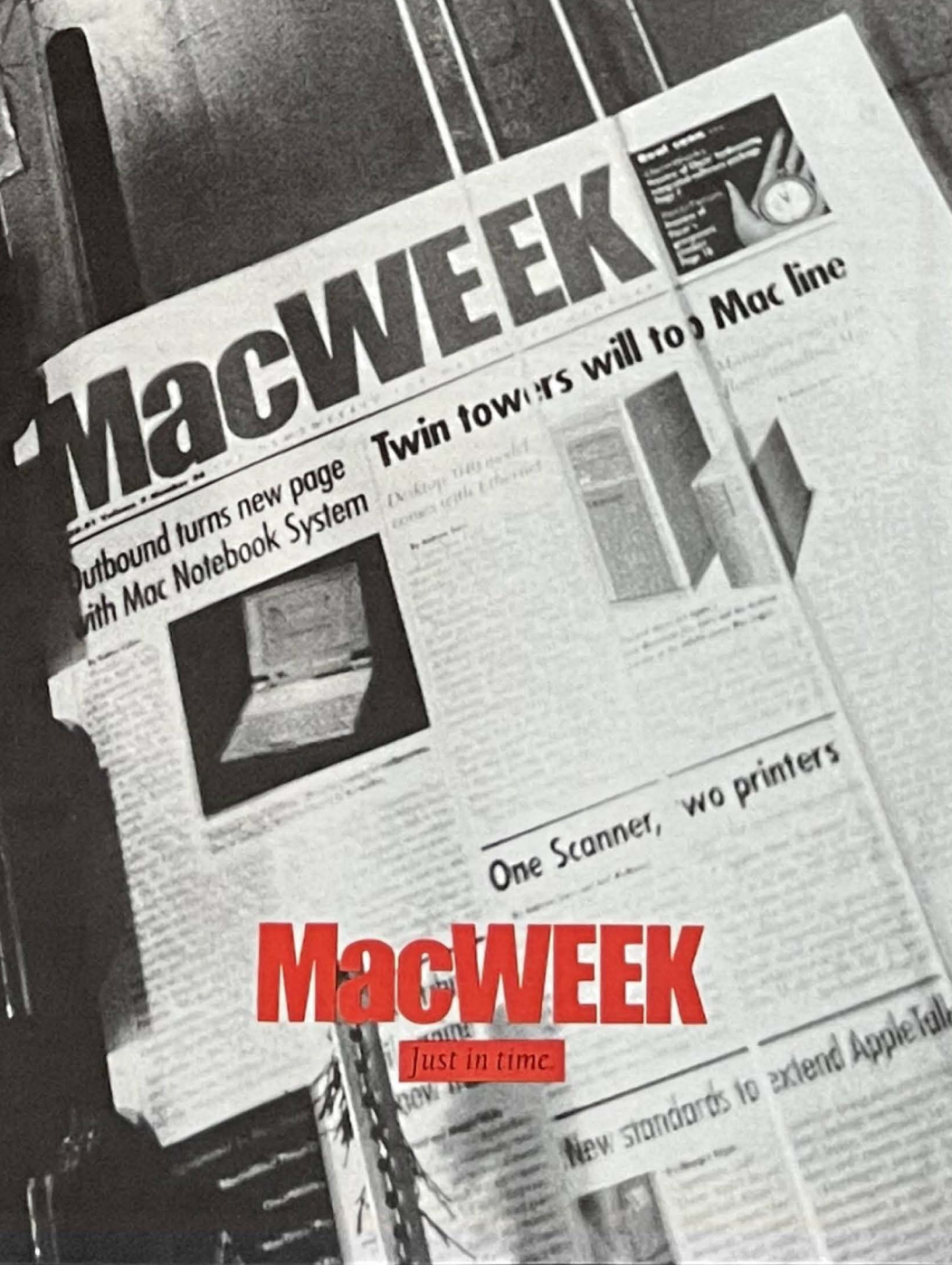
PageMaker 4.2

Balloon help	Yes
TrueType	Yes
Publish and subscribe	Yes
Apple events	Yes
32-bit addressing*	Yes

*According to vendor.

**EXTRA!
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New-look MacInTax remains first-rate

By Scott Beamer

Since its introduction in 1985, SoftView Inc.'s MacInTax has been the dominant Mac tax-preparation product. ChipSoft Inc., publisher of the popular TurboTax tax software for IBM PCs and compatibles, attempted to muscle in on SoftView's turf last year with a version of TurboTax for the Mac but ultimately decided to purchase SoftView and MacInTax (see MacWEEK, July 30, 1991). The recently released version of MacInTax, which covers the 1991 tax year, is the first revision of MacInTax under ChipSoft's name.

The \$99.95 package is a set of more than 70 automated tax forms. There are also numerous worksheets and supporting statements available, as well as the highly useful Itemization windows. Experienced MacInTax users will be pleased to know that the program operates just as before.

ChipSoft's additions have been limited to improving the manuals and

adding an elaborate help system. Help now has its own menu, with more than a dozen items to choose from, and five of these menu choices are also available as buttons on the Status Bar at the top of the screen.

Neophytes opening the program for the first time can take a simple tour of MacInTax or begin an interview that will help them choose the correct version of the Internal Revenue Service's 1040 and associated forms and help them fill in basic information. As you continue to work on the forms, the Logical Next Step window will pop up from time to time, advising you what to do next. If you are an experienced user, you can turn this help and the Status Bar off.

The rich set of help files includes a complete set of the IRS 1040 booklet instructions, IRS changes this year, tax tips, a calendar, a cross-reference showing interlinking between forms, a list of IRS addresses and a final review.

The extent of MacInTax's help

files should not be viewed as an indication of the program's complexity but rather of the government tax forms. MacInTax is much easier to use than a pencil and paper for preparing tax forms.

MacInTax uses a replica of the IRS paper form on screen, and you merely enter income and expense information in the same places you would on the paper form. MacInTax performs all calculations and copies data from one form to another when appropriate. This makes MacInTax an excellent tool for tax planning. For instance, you can quickly see the effect of taking a standard deduction rather than itemizing.

Printing out the forms is time-consuming, but the results are excellent. The IRS will accept signed printouts of a MacInTax-produced version of the 1040.

Early bird has to eat the worm. As was SoftView's policy, ChipSoft shipped an early version of MacInTax in December (upon which this evaluation is based). A final version was scheduled to ship last week. All users who send in their registration card will be sent the final version free.

While the primary reason for the second release of MacInTax during the tax season is to allow ChipSoft to include any last-minute changes the IRS has made to forms, there are some other differences.

In the past, MacInTax has come with an elaborate set of converter utilities, allowing those who used MacInTax the previous year to fill out automatically as much of the current year's forms as possible. There was also a script allowing those who had been doing preliminary work on the current year's taxes with the previous version of MacInTax to move the data to the most recent version.

While the manual and menus indicate these same abilities for this year's MacInTax, the script provided with the STD Converter program transferred so little data that it was useless. ChipSoft promised that the final release will have a full set of scripts.

The other difference between the early and late version of MacInTax is that the facilities for electronic filing will not be available until the final version. Electronic filers must send in a printout of their completed MacInTax return along with the application and \$19.95 by U.S. mail. The service bureau, Nelco Inc. of Green Bay, Wis., will notify users by mail when the IRS acknowledges receipt of their return and send them their refund check if appropriate.

MacInTax will work on any Mac with 1 Mbyte of RAM, from System 4.2 and up. It runs under System 7, though it uses none of System 7's special capabilities.

Forms for every occasion. The vast majority of users will find

ChipSoft's MacInTax offers an extremely elaborate help system that will not only assist the neophyte in getting up to speed but also will offer useful help for the experienced user.

all the forms they need in the early version of MacInTax. The list of forms to be included in the final release of MacInTax is more impressive still. It will include the 1040EZ, 1040A, 1040 and 1040ES. Unlike previous years, there will be no 1040X, which is used to file an amended return for any previous year, a minor, albeit surprising omission. Additionally, there will be about 60 of the most common forms and schedules, as well as about a dozen worksheets that are very handy for dealing with some of the more complex forms.

These worksheets, for such things as W-2 forms, K-1 partnerships and passive loss can be entered directly from the federal forms sent to the taxpayer by employers and others. The information is then automatically distributed to all appropriate forms and flowed through to the 1040 without any further user intervention required. In this area, the package performs excellently.

Performance is not so hot in the areas of data import. While both Intuit Inc.'s Quicken and MacInTax have featured special import links between the packages for years, they are so cumbersome to set up and use that very few will benefit from using them. An import facility is also available for MacMoney from Survivor Software Ltd. of Inglewood, Calif.

Also, for those determined to do so, files can be imported from Excel or any program that saves data as text, but the figures must be manually assigned to individual lines on individual forms.

MacInTax performed well, though we had a couple of random crashes with the program, and we found a few minor bugs involving the tab order of certain forms. These are cosmetic problems, however. The overall integrity of the data calculations and presentation in MacInTax is excellent.

Extended products. While MacInTax is often thought of as a single product, there are actually a plethora of related products. Besides the early and late versions of MacInTax, there are packages for 14

state forms, including California, Connecticut, Illinois, Massachusetts, Maryland, Michigan, Minnesota, North Carolina, New Jersey, New York, Ohio, Oregon, Pennsylvania and Virginia. The state packages, as well as a package for Washington, D.C., are priced at \$49.95.

A Personal Tax Analyst, useful for "what-if" planning of up to five scenarios or for five years is also available for \$49.95.

For the professional preparer, the \$599 TaxView Professional is available, as well as modules for corporate partnership, electronic filing and some state business forms.

As is traditional in the tax-preparation software business, ChipSoft offers extended technical support hours through April 15, from 6:30 a.m. to 7:30 p.m. PST weekdays and from 8:30 a.m. to 2 p.m. PST on weekends. Technical support is also available via fax, CompuServe, GEnie, ChipSoft's bulletin board and through mail.

The manual is well-done and combined with the on-line help gives the user the best documentation ever available for a Mac tax package.

Conclusions. While it has a few minor glitches, ChipSoft has maintained the high MacInTax standards. The quality of calculations and final presentation remains first-rate. With the exhaustive help files, accessibility of the package has improved considerably for neophyte users.

ChipSoft Inc. is at 6330 Nancy Ridge Drive, San Diego, Calif. 92121-2246. Phone (619) 453-8722; fax (800) 755-1040. □

SCORE CARD

MacInTax



Overall value



Performance



Features



Ease of use



Documentation/support



List price

\$99.95*

● Excellent ● Very good ● Good
○ Average ○ Below average

*Upgrades from 1990 version, \$49.95.

ON BALANCE

MacInTax
ChipSoft Inc.



Experienced users will find they can work with the same MacInTax they have enjoyed for years. The new help system ensures that neophytes can complete their tax forms accurately and with minimal effort. The early release did crash, lacked useful Converter scripts and electronic filing, but the final release should remedy these problems, and MacInTax is still the best there is on the Mac.

MacInTax not the only game in town

For years, the only significant alternative to MacInTax has been the Heizer Tax Series from Heizer Software. These Excel templates are linked and have numerous macros to improve maneuverability. Screens are good facsimiles of actual tax forms and the printed versions, even from an ImageWriter, can be signed and submitted to the Internal Revenue Service.

This year, Heizer is offering four versions of the individual 1040 package for versions 1.x, 2.2 and 3.0 of Excel, as well as a version for Microsoft Works 2.0. The \$39 1040 Individual has more than 40 forms and worksheets. For \$19, the Extra Forms disk adds another 40 forms and worksheets. There are also disks available for Depreciation (\$29) and Tax Planning (\$20). State forms are available for Cali-

fornia, Illinois, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, New Jersey, New York, North Carolina, Ohio, Pennsylvania and Virginia.

Though there is a small manual provided and daily technical support during tax season, these templates are not nearly as user-friendly as MacInTax. Some Excel or Works experience is also a good idea.

Heizer claims that about half of its clients are professional preparers. For them, there are almost 50 disks of forms available. This includes all major business forms, more than 240 in all, and even state business forms, primarily for California.

Heizer Software is at P.O. Box 232019, Pleasant Hill, Calif. 94523. Phone (510) 943-7667 or (800) 888-7667; fax (510) 943-6882. — By Scott Beamer

SYSTEM 7 COMPATIBILITY

MacInTax

Balloon help	No
TrueType	No
Publish and subscribe	No
Apple events	No
32-bit addressing*	No

*According to vendor

Merging MIDI with multimedia tools

Passport Designs' Audio Trax features a 64-track tape deck plus channels for recording live audio.

By Craig O'Donnell

Audio and music editing has been the neglected cousin of video and animation multimedia tools for the Mac. Few applications take full advantage of Apple's Sound Manager, part of the system software since System 6.0.7, and fewer still make intelligent use of the newest Macs' sound-input capabilities. Inexpensive software introductions stagnated after Farallon Computing Inc. released its workhorse, SoundEdit 2.0, in 1988. At the other extreme, professional musicians have long had sophisticated MIDI (Musical Instrument Digital Interface) production software, and the Mac II family has proven to be a powerful platform for high-end 16-bit sampling boards.

Passport Designs Inc.'s Audio Trax is an attempt to bridge this gap by grafting two eight-bit sampled sound tracks onto its tried-and-true Trax sequencer. For \$299, you get a 64-track electronic "tape deck" for MIDI instruments, plus two channels for recording synchronized live audio.

The MIDI ground. MIDI data represents music as physical note events over a flexible time base. A synthesizer re-creates the instruments from transmitted MIDI data, so files remain very small. Fidelity is scalable—the sound quality depends on the synthesizer used.

Sound-sampling hardware converts a continuous audio waveform into numbers, approximating its dynamics and tonality. In Audio Trax, this data, saved in Audio Interchange File Format (AIFF), plays from the hard disk. The two tracks are mono (true stereo recording is not supported), and sampling rates are limited to 11 kHz or 22 kHz, well below a CD's 44.1-kHz sampling rate.

MIDI files are small, but AIFF files are big; each minute of one 22-kHz track consumes more than 1 Mbyte on disk. In general, however, we recommend recording audio only at the higher rate; the 11-kHz rate is useful only as an audio scratch pad.

Load and go. Audio Trax's three floppy disks include the application, support files and drivers, a demo file, several HyperCard stacks, and a few sample MIDI clip files from Passport's Media Music collection. It would be nice if Audio Trax came with more Media Music files to help users get up to speed with the program.

Setup of Audio Trax is straightforward, but remember that basic Mac hardware is only the beginning. To create and play sound and music, you'll need more equipment (see story at right).

Audio Trax is fussy about the settings for Apple's MIDI Manager extensions and PatchBay applications, as well as the Mac sound

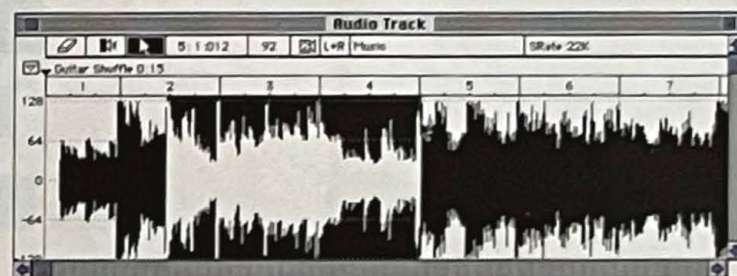
port settings, but this is Apple's problem more than Passport's. We encountered several baffling error messages resulting from simple misadjustments in the Sound control panel. PatchBay, which is essential for configuring MIDI input and output, comes as an application and a desk accessory. The application is preferred, since we found that under System 7 the DA would not open the Apple MIDI driver. Once we settled this, however, imported MIDI files played without a problem.

You can create audio tracks or MIDI tracks first. MIDI data is played into the sequencer live or loaded from a pre-existing file. Audio tracks are recorded from a microphone or tape input, or imported from AIFF files. Changing MIDI tempo after adding audio causes synchronization loss, however. Although you can change the tempo of the MIDI music, once you record an audio track, its duration is fixed.

Each audio track can be offset to begin after the MIDI music, a welcome touch that helps conserve disk space. Audio thereafter must be one continuous file, but multiple sound bites can be pasted into the file.

It is not possible to create a playlist of multiple events (essentially creating pointers to multiple locations in the AIFF file), as is the case with Digidesign Inc.'s more expensive Audiomedia, but it would be a welcome addition.

Each Audio Trax session folder contains one MIDI file and one or two AIFF files. Audio Trax saves in Passport's Master Tracks Pro 4 format and exports MIDI file types 0 and 1. It imports MIDI files and saves and imports AIFF files. AIFF files are readily



The waveform display in Audio Trax's Sound Editor should be familiar to users of Farallon's SoundEdit. Volume is on the left axis; musical bar lines are displayed across the top.

exchanged among applications and even across platforms.

Holy modal interface. While Audio Trax's interface is simpler than those found in professional MIDI sequencers, six functional windows for editing or sequencer control lend a modal look and feel to Audio Trax. Once you understand MIDI editing, you will appreciate the classic tape-deck metaphor that Passport uses.

Audio Trax's MIDI editing is powerful and precise. For example, individual notes may be copied, pasted or dragged within the Track Editor, and songs may be restructured in the Song Editor. Some functions are convoluted, however, such as changing an instrument (synthesizer patch)

partway through a track, which requires more steps than it should.

Audio editing and processing in Audio Trax is very basic; Passport encourages you to work with a program such as SoundEdit (now sold by MacroMind-Paracomp Inc.) if you want to add fancy effects to the audio tracks.

Not all processing is undoable, especially with the sampled tracks, and this needs improvement. In addition, Cut, Copy and Paste functions do not behave as you might expect, which means that you'll need to experiment a bit.

Hardware requirements.

Audio Trax requires 4 Mbytes of RAM, System 6.0.7 or higher, and it will run on a Mac LC or 68030-

See Audio Trax, Page 46

SCORE CARD

Audio Trax



Overall value



Performance



Features



Ease of use



Documentation/support



List price

\$299

● Excellent ● Very good ● Good
○ Average ○ Below average

ON BALANCE

Audio Trax
Passport Designs Inc.



Audio Trax lets MIDI users make good use of the built-in sound port and microphone found on newer Macs, and it works with popular third-party sound-input hardware. Two channels of mono, eight-bit audio are a far cry from high-fidelity stereo, yet Audio Trax successfully blends scalable-fidelity MIDI music and a friendly audio editing environment. Audio-MIDI synchronization is adequate, and it is a useful, low-cost production tool. To increase its usefulness, however, Passport will need to offer a way to seamlessly wire it into a multimedia environment.

Heavy equipment can help make Audio Trax complete

Just as Aldus Corp.'s PageMaker needs a laser printer and cries out for a large-screen display, Passport Designs Inc.'s Audio Trax is incomplete without additional hardware. Connecting everything is not difficult, and Passport's manuals cover the basics. But what to buy? It's impossible to find all you need from one source. Some is found in music stores; some is available from Macintosh mail order; for the rest, visit a decent electronics store.

MIDI gear. You need a Musical Instrument Digital Interface box, which starts as low as \$50 and can go up to \$500. If you are not an experienced MIDI composer, purchase a General MIDI-compatible synthesizer; right now, the \$795 Sound Canvas from Roland Corp. of Los Angeles is the only game in town.

Audio gear. Capturing audio requires a \$249 MacroMind-Paracomp Inc. MacRecorder or similar sound digitizer or a microphone-equipped Mac. A compressor and a better microphone both help optimize sample fidelity. It's often best to sample from a tape. You could use an inexpensive cassette recorder with Dolby sound reduction, a Hi-Fi VCR or digital audio tape recorder.

To hear the playback, you should have a small audio mixer, which can range in price from \$50 to \$500, and stereo powered speakers, which start at \$75 and can go as high as \$450. Speaker quality profoundly affects how good the MIDI music sounds, so don't skimp here and don't forget the cables you'll need to hook all this stuff up.

Amadeus ex machina. Most multimedia projects will use pre-composed, prearranged MIDI music passages. For this, obtain a music library in General MIDI file format. Passport has a CD-ROM collection of professional compositions, Media Music (\$99 sampler; \$299 per volume), intended for exactly this application. Public-domain classical music MIDI files are published on almost every issue of the Nautilus CD-ROM magazine, which appears 13 times a year for \$119 from Metatec Corp. of Dublin, Ohio. CD-ROM drives start at about \$600.

To sequence music on your own, you must have a MIDI keyboard or guitar controller (\$400 and up). And, of course, having some talent helps.

—By Craig O'Donnell

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FREE UTILITY

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Challenges Microsoft's DOS stronghold

Figure 1 — The new line of personal computers will use the Macintosh.

GROWING TREND

Figure 1 — The new line of personal computers will use the Macintosh.

#1

PC Week

The world's number one computer newspaper is relied on by over 200,000 volume buyers in over 88,000 core installations for its timely PC and multiplatform news and analysis every Monday.

MacWEEK

Volume 5 Number 40 THE NEWSWEEKLY

MacWEEK

Omnis promises developers ease, speed

multi-user Mac databases, has been optimized even further in Omnis 7, which was rewritten from the ground up, but maintains compatibility with Omnis 5. Programs developed in Omnis 5 will automatically convert to Omnis 7 format when opened and saved within the new database, sources said.

#1

MacWEEK

The number one weekly in the Macintosh market is preferred by over 85,000 Mac volume buyers in almost 34,000 core installations for its newspaper coverage on computing from the perspective of the Macintosh standard.

NE NETWORK 'T ASK YOU PROMISE.



#1

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The number one Macintosh magazine keeps more than 335,000 brand specifiers of Mac products up-to-date with lab-based product reviews, comparisons and feature articles that help facilitate business buying decisions for their companies.

#1

PC Sources

The number one launch in U.S. magazine publishing history, now a year old, taps the booming direct market with features and reviews that make the direct channel more accessible to over 190,000 active direct buyers.

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Audio Trax

From Page 43

based Mac. On a PowerBook 140 2/20 with virtual memory running, memory paging while recording apparently destroyed any semblance of synchronization between the sampled sound and the MIDI track. A 4-Mbyte PowerBook 140 works fine, however.

Both the MacRecorder and Apple's microphone work, but the Voice Impact Pro from Articulate Systems Inc. of Cambridge, Mass., is incompatible.

The documentation has a low-budget aesthetic, but it is well-written and thorough.

Passport sincerely attempts to clarify complex MIDI and sampled audio concepts. The Reference Guide is based on the Trax manual, and a Getting Started booklet delivers the basics.

The Applications Guide outlines using Audio Trax with HyperCard and MacroMind Director. More specifics on complementary hardware would help.

QuickTime. Audio Trax is a good tool for anyone creating QuickTime files, which require music and narrative. Voice-over would be pasted into one track, and the MIDI music must be sequenced and then recorded into the second audio track (thus becoming an AIFF music file). Assembling visuals to the audio with a program such as Adobe Systems Inc.'s recently released Premiere would then result in a stand-alone QuickTime movie.

We would like to see QuickTime exten-

sions capable of playing MIDI and AIFF files created in Audio Trax. This would greatly enhance its usefulness.

Who are you? Those creating elaborate trade-show presentations, information kiosks or museum installations will find Audio Trax useful. But mixing media is far from seamless, and we were disappointed with its complexity. For most presentations, Passport suggests starting Audio Trax and then manually advancing slides to match the soundtrack and narrative.

For playing an Audio Trax session from within HyperCard, Passport includes an Audio Trax Controls stack with external commands (XCMDs) for Start, Stop, Continue and Song Position Pointer (MIDI's fast-forward and rewind functions). PatchBay directs commands to Audio Trax running in the background. Similarly, MacroMind Director can control Audio Trax (but Passport recommends running Audio Trax on its own Mac). It is not possible to open and close files in the background; this is unfortunate.

Audio and MIDI are synchronized within Audio Trax, but a free-running presentation is not synchronized with Audio Trax once the music starts. Stop, Start and Song Position Pointer are the work-arounds to make sure crucial hit points are in sync.

Unfortunately, other presentation programs disable the play-from-disk capability; MIDI playback, however, works and can be used to add instrumental music to Aldus Persuasion, Microsoft PowerPoint and Symantec Corp.'s MORE.

Conclusions. Combining full-fidelity MIDI with the Mac's low-fidelity, on-board audio is at first strange, but it works fine for small-scale projects and prototyping, which are reasonable compromises for low-end users looking to spruce up multimedia presentations. Direct Apple-events support would be quite useful in this product, and a runtime engine or QuickTime extension would help with distributing a finished piece. Each user currently must own Audio Trax.

Audio Trax is analogous to a low-end page-layout package with above-average word processing and drawing features. It offers fine editing features, and the addition of audio recording is a welcome one. The MIDI editing is more than adequate, and the audio editing and synchronization are acceptable but need to be improved upon. Background playback through HyperCard yields possibilities similar to Digidesign's Audiomedia 16-bit card (with lower fidelity being the trade-off for the much lower price), but we were disappointed that Audio Trax's playback is currently so difficult to integrate with other Mac software. All in all, Audio Trax is a fine enhancement to Passport's proven Trax; with some well-developed hooks, it can be a good addition to the growing arsenal of multimedia tools.

Passport Designs Inc. is at 625 Miramontes St., Half Moon Bay, Calif. 94019. Phone (415) 726-0280; fax (415) 726-2254. □

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SYSTEM 7 COMPATIBILITY

Audio Trax	
Balloon help	No
TrueType	n/a
Publish and subscribe	No
Apple events	No
32-bit addressing*	Yes

*According to vendor.

PageMaker

From Page 40

let, Run Script — and more are expected from third-party developers. The additions that come in the package are a mixed bag. Probably the least useful is the Balance Columns Addition. It does balance columns, in that it places the windowshades at the same location, but unless the leading is constant, the lines of text won't line up — Balance Columns doesn't perform true feathering or vertical justification, which adds space between lines to make columns balance.

Display Pub Info lists all the fonts in both the publication and the current system; all linked graphics, their location and kind; and all styles used in the publication. It does a good job as far as it goes, but ElseWare Corp.'s CheckList utility (see MacWEEK, Oct. 29, 1991), which is also included in the PageMaker 4.2 package, does a much more complete job at the same task.

The remaining Additions are more useful. Drop Cap quickly converts a selected character into a drop cap spanning the number of lines specified. It calculates the necessary size for the character, subscripts it and inserts tabs and line-break characters to make the rest of the text wrap correctly. The only downside to this is that subsequent editing of the text can mess things up unless you understand exactly what the Addition has done.

The Page Sorter Addition opens a window with thumbnail views of each page in the publication. You can move pages within the publication by dragging them to a new location and view them at several different levels of magnification. For double-sided publications, you can specify whether page elements are moved when a left-hand page is moved to become a right-hand page, or vice versa. When you move pages, the original page number is displayed in gray beside the new page number, so you can keep track of their original locations.

Make Booklet creates an untitled copy of a document with the pages rearranged so that two pages print on each sheet of paper. The result can be folded in half to make a booklet. The pages are arranged so that they fall in the correct order when the booklet is assembled.

The final Addition, Run Script, is the one with the most far-reaching implications, for PageMaker now includes a scripting language that holds the promise of automating many repetitive tasks. Unfortunately, the Scripting Guide, which is necessary for writing scripts, is not included. It's currently available for \$30 by mail to purchasers of PageMaker 4.2, though we think it should come standard with the product. The sample scripts included in the package execute very quickly and give an idea of the scripting language's scope. We anticipate a lively exchange of scripting ideas on on-line services in the coming months.

Type specs. Typographic controls remain largely unchanged, with one very important exception: At long last, PageMaker supports baseline-to-baseline leading in addition to its existing proportional and top-of-caps leading methods. Likewise, PageMaker still can't do process color separations, but Aldus PrePrint 1.5 is now included in the package. There are other important enhancements, though. Screen redrawing is faster than before, particularly with Adobe Type Manager installed, and more importantly, it's now interruptible.

PageMaker's Aldus Printer Description (APD) files have been replaced by the more standard PostScript Printer Description (PPD) and Printer Description Extension (PDX) files, which it can share with other applications. A fast method of placing Desktop Color Separation (DCS) files lets you preview the image on screen and print separa-

tions correctly from PrePrint, but prints a gray box in composite prints. If you need to see the DCS image in a composite print, you can place the entire DCS file in PageMaker, but this takes much longer to place.

Conclusions. PageMaker 4.2 is a solid upgrade, but some important features remain on the wish list. First and foremost, we'd like to be able to open more than one document at a time: PageMaker is the only major Mac application limited to one open document. We'd like to

see a method of grouping objects. We need to rotate objects, not just text, and not just in 90-degree increments — preferably using the Control palette. And finally, we'd like to be able to print process color separations from directly within PageMaker. Including Aldus PrePrint 1.5 is a step in the right direction, but we'd rather not have to print the publication to disk before we can separate it.

We hope these shortcomings will be addressed in future versions of PageMaker. Meanwhile, Version 4.2's use of Apple events

and IAC, the Aldus Additions capability and a scripting language point Aldus in a worthwhile future direction. On other fronts, the performance enhancements are welcome, and the inclusion of PrePrint and ElseWare's CheckList make it a good value for the money. All in all, it should provide PageMaker fans with enough new capabilities to halt the drift to QuarkXPress, and may give XPress 3.1 a run.

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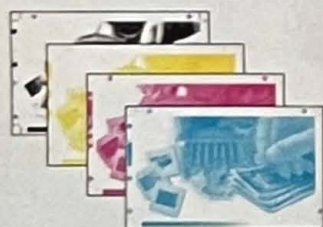


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Peripherals ease presentations

Specialized tools add polish and power, and can help keep presenters from being trapped behind the podium.

By Clay Andres

While there's plenty of great software for preparing presentations, when it comes time to stand up and face an audience, there are some things software just can't do.

Remote presentations.

Grayson Gibbs, vice president of sales for Projection Systems, a presentation equipment dealer in Belmont, Calif., sees two basic problems: How do you do more than point at the screen and also get out with your audience? Gibbs points out that using a remote-control device can solve both situations.

Eric Johnson, sales and administration manager for the Wagener Mining and Equipment Co., a manufacturer of underground mining equipment in Portland, Ore., makes regular presentations for in-house training and sales presentations. "We needed a presentation delivery system that was more flexible than 35mm slides," Johnson said.

He liked the high quality of Proxima Corp.'s Ovation LCD panel, but what really impressed him was Cyclops.

Cyclops is a 36-inch wand that

Proxima offers as an option for its LCD panels. It works as a remote-control mouse with a button in the handle and LED pointer at the tip. When you move the light from the pointer across the screen, the Macintosh screen cursor moves, too. "Most people aren't aware that this technology is available," Johnson said. "[When they see it being used] it removes socks."

The drawbacks of Cyclops are price and flexibility: It can be used only with Proxima LCD panels, and you have to be fairly close to the screen to use it. However, if you're willing to give up the light and the wand, there are several infrared-controlled mice that are much less expensive and allow complete mobility within their transmission range.

On-Command from Computer Support Corp. and Silent Partner from Presentation Electronics Inc. do everything a mouse does, and they're programmable. Rather than a single mouse button, both devices have many, and each button can be assigned a different function. On-Command includes several preset templates for popular Mac software.

"The worst thing you can do during a presentation is to start futzing around with your Mac," said Carolyn Goates, a business-development executive at Apple's office in Irvine, Calif.

Goates programs her Silent Partner to automate the mechanics of the presentation—load a file, execute a function or change programs. Silent Partner has become an indispensable tool for her. "It's very responsive, very portable, and I think it's great," Goates said.

But not everyone can deal with

writing macros to go along with their presentations, and many find the multiple button configurations confusing. "People doing presentations are nervous anyway," Gibbs said. Gibbs prefers what he calls "an executive version" remote-control device that is easy to use, intuitive and doesn't have a lot of buttons.

One example of this might be the AirMouse from Selectech Ltd., which is a powerful yet simplified infrared mouse. According to Selectech, the AirMouse has the longest transmission range of any remote mouse—10 meters—and has only two buttons. It also works off the Mac's Apple Desktop Bus port rather than using a serial port like other remote mice.

But the least expensive remote device is likely to be Presentation Electronics' forthcoming Silent Partner Exec. Due out this spring, Silent Partner Exec will be a \$99 one-button version of the company's current mouse.

Gibbs also has his sights set on the GyroPoint from Gyration Systems Inc. Rather than using infrared technology, it contains two gyroscopes that sense the movement of your hand. "You don't need to point, you just move your wrist," Gibbs said. GyroPoint will be available this spring for \$695 from retail dealers.

Mac-less presentations. For presenters who prefer to travel without their Macs, there are a couple of powerful tools that can



The Advanced Remote Control (ARC) from General Parametrics displays PICT images and a movable cursor contained in the VideoShow Professional system on a built-in color LCD screen.

store Mac images for projection, reorganize them on the fly and add special effects.

Laura Wallace, assistant vice president of communications for Wells Fargo Nikko Investment Advisors in San Francisco didn't want to carry or rent a Mac around the country.

Wallace uses a LiteShow II from In Focus Systems Inc. for her annual road show. She creates her presentations in Aldus Corp.'s Persuasion and captures the images to the LiteShow. The LiteShow handles all the transitions and effects. "It's a superconvenient way to carry a good presentation around," Wallace said.

For remote control plus presentation control, the Advanced Remote Control (ARC) from General Parametrics Corp. is a handheld device that not only controls effects but has a small preview screen built in that lets you see your

slides in advance and jump around in a random sequence.

However, at this time ARC can be used only with General Parametrics' VideoShow Professional, a combination projector and presentation computer.

Any Mac PICT file can be converted to VideoShow format using General Parametrics' StarTime software. However, VideoShow uses only a few fonts and 1,000 colors; other fonts are converted to bit maps, and colors are approximated.

Help from others. Finally, when what you really want to do is stand in front of an audience and not have to read from notes in front of you or forget important points, there is MagicScroll from Magic Teleprompting Inc.

MagicScroll is a combination of See Presentations, next page

Clip media packages put music, animations in message

For presentations, clip video/audio can make the difference between a nap and a successful meeting. These packages offer everything from music to animation to video clips that can be used to enhance any presentation.

"Music makes a difference in the message that's communicated to us," said Carolyn Goates, a business-development executive at Apple's office in Irvine, Calif.

Goates has found that the impact of adding animation, music and sounds to her presentations using clip media has made a profound difference. "It's just a presentation, but people come away with the impression that you know what you're doing," Goates said. "It helps draw and keep their attention, and, therefore, they retain more information."

Goates recently purchased a CD-ROM from Killer Tracks called MultiMedia Music Library. CD-ROM is the preferred method of distributing clip video/audio, because one digital sound sample is often more than can fit on a single floppy disk.

Some of the original music from Killer Tracks is also available from MacroMind-Paracomp Inc. on its first ClipMedia CD-ROM. It's a collection of royalty-free music, sound effects, digitized video, animation and graphics.

"One of the major stumbling blocks of multimedia is that anything of any value has been copyrighted," said John Rogers, president of Interactive Educational Technologies Inc. of Omaha, Neb. Rogers trains teachers in multimedia techniques so they

can teach their students. "We need good sources of copyright-free materials."

Rogers has been using Clip Video from The Publishing Factory Inc. Unlike the predigitized clips on CD-ROM, Clip Video comes on videotape, which Rogers digitizes on his Mac.

The price of clip video/audio on CD-ROM should fall as the market becomes better established. Even now, Passport Designs Inc.'s Media Music Sampler, a collection of original compositions that includes licensing for up to 1,000 copies, has just been introduced at \$99.

On the video side, ClipTime from Alpha Technologies Group Inc. is a CD-ROM of 200 assorted digital video images for \$199.

—By Clay Andres



The MagicScroll teleprompter system gets speakers out from behind the podium. The speech is typed into the Mac and then scrolled across any video monitor for easy reading from the stage.

Presentations

From previous page

hardware and software that lets you enter lecture notes and use the Macintosh as a teleprompter. Teleprompters are most commonly used in television so performers can read their lines while appearing to be looking at the camera. And if the price seems too steep, you can hire Magic Teleprompting to run the show for you.

Sean Murphy, production manager for Visual Communications in Collingswood,

N.J., was organizing a meeting for Campbell Soup Co. at the National Food Brokers Association conference. Murphy hired Magic Teleprompting because the client wanted the presentations to be as polished as possible.

"The important thing is we knew there were going to be changes at the last minute," Murphy said. "They were able to handle that."

Less is more. The right equipment can help make a presentation more comfort-

able for both the speaker and the audience. "[But] keep your equipment to a minimum," said Simon Tuck, technical services coordinator for Projection Video Services, a presentation equipment supplier for computer-based audio-visual events in Alexandria, Va.

"It's nice to have all that high-tech gear, but the more gear you bring the more likely something is to go down," Tuck said. "You want people to pay attention to what you're saying, not the equipment itself." □

Product Info

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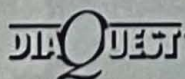
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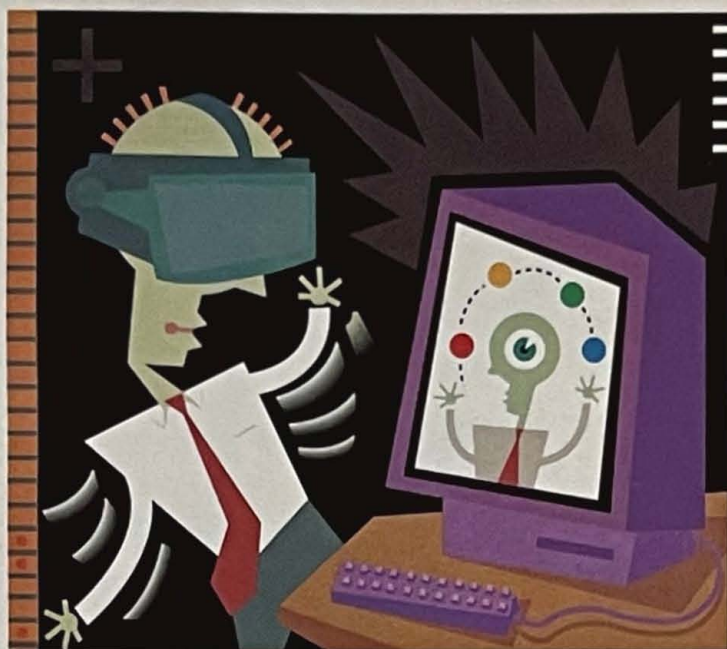
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MacInTouch RIC FORD

Push buttons are not only interface option

The only controls Apple provides for communicating to the Mac are a mouse and keyboard, but a few people are previewing richer human interfaces.

ISSUE & TRENDS

Button-down Macs. Aside from a few minor variations in design, the same mouse and keyboard have been the standard means of communicating instructions to the Mac since it first was introduced eight years ago. Although Apple added simple sound digitizing capabilities to recent Macs, and a few third-party companies have created alternative input devices, the vast majority of Mac users still rely on some 50 on-off buttons as their means of getting ideas into the digital domain and controlling them there.

At the recent Macworld Expo in

San Francisco, several demonstrations offered glimpses of how advanced Mac user interfaces might offer more-dynamic connections with people in the future.

Writing math. Although pen-based computing is gathering momentum, Apple has been mostly mum about the stylus it's known to have up its sleeve.

The closest thing I have seen yet to a pen-based Mac was an experimental prototype at the expo. Allan Bonadio and Ron Avitzur, two developers of Mac mathematics software, were showing a system for interpreting mathematical symbols and command gestures drawn with a stylus on a special tablet made by Wacom Inc. of Paramus, N.J.

The tablet was also a Mac screen, functioning as both input and output device. You could draw directly on its surface to construct equations or execute commands.

The problem of writing mathematical notation shows how useful alternative interfaces can be, but this prototype had some extra appendages — a Mac IIci and an external power supply. Still, it is not hard to imagine a PowerBook motherboard tucked into a similar package, running on batteries.

Other spaces. Some more futuristic interfaces were demonstrated away from the show floors.

VPL Research Inc. of Redwood City, Calif., was previewing in a hotel suite a virtual-reality system that incorporates a Mac. Donning helmet and gloves to navigate through digital information may seem like a strange concept, but picture how a Mac Quadra running Spaceship Warlock would have appeared to an IBM 360 computer operator just a few years ago.

At the Digital Arts Be-In, a technology-meets-art event sponsored during the show week by Verbum magazine, Aldus Corp. and others, people could experiment with virtual reality free from any special attachments.

In one of the dark rooms full of sounds, pictures and people was a system that interpreted people's body movements to control colorful virtual balls that existed only on a display screen. (Imaging tossing a file or folder into the Trash with a simple gesture of your hand.)

Another demonstration showed a device that interprets brain waves, even controlling music synthesizers via MIDI (Musical Instrument Digital Interface) signals.

All this technology may seem futuristic, but it is not really far away, and it is good to see these early explorations on the Mac.

BUGS & TIPS

File system fix on QT CD.

Tucked away on Apple's QuickTime CD — QuickTime Version 1.0 for Developers — is a patch to fix an obscure problem with the Mac's file system. According to Apple, the bug is rare, but it can

Ask David Ramsey

Exactly aligning multiple monitors



Q: I have two monitors and find it difficult to align them using the Monitors control panel; I can't seem to get the tops perfectly even. Can you help?

A: There are a couple of tricks you can use to align multiple monitors precisely.

The easy one is to use the cursor keys instead of the mouse to adjust the monitor images in the Monitors control panel. Depending on the layout, either the up-down or left-right arrow keys will move the selected image in tiny increments.

Some people have reported that they still can't get pixel-perfect alignment — so that they could, for example, move the pointer to the top of one screen and slide it across to the next. For these cases, there's the ResEdit method.

Fire up ResEdit and open the `scrn` resource in your System file. There will be a listing for each monitor attached. Near the bottom of each listing will be a parameter labeled `Glob.rect` followed by four text-edit boxes. These boxes contain the coordinates of the screen in the following order: top, left, bottom, right. Edit these to the values required; for example, to make the tops of two screens match perfectly, just make sure that they both have 0 in the first box. You don't have to press the Set button.

Be careful, though: It's possible to set illegal values. The first two values for the primary monitor (the one with the menu bar) must be 0, for example.

Q: Can X-rays from airport luggage scanners harm my PowerBook?

A: Didn't anyone take high-school physics? No, X-rays don't affect magnetic media and can't hurt your PowerBook. A dose that would be fatal to a person would leave your PowerBook running happily.

Some worry that the magnetic fields from the electric motors that power the conveyor belt through the X-ray machine can affect disks but verified instances of this happening are few, and reports from pilots and travelers who run their laptops through airport X-rays dozens of times per year indicate there's really no problem at all.

Please send questions to David Ramsey on CompuServe: 76702.335 or to Ask David Ramsey, c/o MacWEEK, 301 Howard St., 15th Floor, San Francisco, Calif. 94105.

The Help Desk

AMT Configure: One-stop modem-tool customization

Information Electronics of Hammondsport, N.Y., has released a nifty, free utility for users of Apple's Macintosh Communications Toolbox. AMT Configure, a 38-Kbyte program available through on-line services, lets you edit the modem initialization strings stored inside the Apple Modem Tool.

Apple's tool lets you set custom strings, but each string you enter is tied to a particular use of the tool. You need to re-create your custom string in each application or electronic-mail gateway that uses the tool. AMT Configure alters the resources of the tool itself, making your changes universal. With AMT Configure and knowledge of the modem's command set, you could, for instance, turn off a specific type of modem's speaker or flow control.

AMT Configure 1.0 does not work with the new Apple Modem Tool 1.1; Information Electronics hopes to have a new version for this tool out in a few weeks.

corrupt your disk, allocating the same space to multiple files.

Appending material to an existing QuickTime movie under System 6 may trigger the problem, but it was fixed in System 7, according to the company. To be on the safe side, it might be wise to install the fix if you use System 6 at all.

The patch is a system extension that works with System 6.0.4 through the latest System 6 release. The extension checks for the proper system environment before it loads into memory.

FS6Patch and its documentation file are in a folder called System 6 INIT, within the System Stuff folder on the QuickTime CD. The disc and a mammoth binder of technical documentation are sold by APDA as the \$195 QuickTime Developer Kit 1.0. Many interest-

ing applications and documents are included, making it a worthwhile purchase for people exploring QuickTime.

REFERENCE

APDA is at 20525 Mariani Ave., Mail stop 33-G, Cupertino, Calif. 95014-6299. Phone (408) 562-3910, or (800) 282-2732 in the United States; (800) 637-0029 in Canada; fax (408) 562-3971. □

Comments on MacInTouch are welcome at 7 Parmenter Ave., Maynard, Mass. 01754. Phone (508) 897-2621. Address electronic mail to RICFORD on MCI Mail and AppleLink; to 72511.44@compuserve.com from the Internet; to 72511.44 on CompuServe and to MACWEEKBOS from America Online and GENie.

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Script Manager

Frontier ships, and PageMaker 4.2 gets it right

I've got two great pieces of news to cover in this first column of the new year. First of all, UserLand Software Inc.'s Frontier is shipping. If Frontier brings nothing to the Macintosh besides a capability to let us write scripts to handle files in the Finder, it will be invaluable to many users. But Frontier will bring a lot more than that. The second piece of news is the smart application of scripting in Aldus Corp.'s PageMaker 4.2.

Aldus ships scripts. Aldus has given scriptors complete control of PageMaker's capabilities; virtually everything you can do by hand with PageMaker you now can do through a script.

Scripting in PageMaker 4.2 can be handled two ways. First, you can write scripts using any text editor (including PageMaker's own Story Editor, though there are better choices) and save them as text files. You run such scripts from PageMaker's Additions menu. While this method is useful, there are limitations. Native PageMaker scripts have no programming constructs such as conditionals, looping or stored variables.

The real fun comes when you hook up PageMaker to an external scripting system, such as Frontier or HyperCard, that supports Apple events. All of PageMaker's script commands can be sent to the program as doc (do script) Apple events, and nearly every command is paired with a query, which can be handled with an eval (evaluate) event. Thus, an external script could query PageMaker about a document's current margins and, if they're not right, change them.

What can you do with it?

People often ask me what good scripting is for them and their companies. Certainly not every user or manager is going to script PageMaker, just as not everyone writes macros in Microsoft Excel. Not all tasks should be scripted; sometimes it's more of a nuisance to write a script than it is to simply do the job by hand. However, when you have a task that you need to do over and over, scripting can make the process more rapid and foolproof. Spreadsheet users are accustomed to writing macros for complex tasks that they perform frequently, as are

users of database and telecommunications products.

It's not hard to think of uses for scripting in PageMaker—page layout is at least as repetitive as spreadsheet work. Managers can create scripts that users can run to handle common tasks. Greater standardization is possible with scripts than through stationery or templates. For example, you can create lists of words that should always be made bold, or product names can be checked to see that they always are followed by trademark symbols, or you could write scripts that anchor a graphic to its reference in the text.

Database and spreadsheet programs could be programmed to control PageMaker through scripts and Apple events, eliminating the tedious and error-prone process of exporting data to a text file and then importing it into PageMaker for formatting and printing. Another possibility is using the data-storage and data-manipulation capabilities of HyperCard and Frontier to create indexes that are more than just concordances of words. Context-sensitive indexing is possible based on conditional instructions you prepare in a script.

Setting a good example.

While I don't know how difficult it was for Aldus' programmers to add scripting to PageMaker, their efforts can serve as an example for a wide variety of programs. PageMaker scripting shows that a developer does not need to implement a full programming language to get useful scripting with System 7. Let independent scripting systems handle the fancy stuff and let the productivity application handle what it does best. I hope Aldus has set a standard for adding scripting to applications that others will follow or even top.

I've written some example scripts for both Frontier and PageMaker and uploaded them to the Scripts & Templates library in ZiffNet/Mac's file section (GO ZMC:DOWN-LOAD). There are three varieties: Frontier scripts working with PageMaker in the file FRONTM.PEA, HyperCard and PageMaker scripts in the file HCPM.PEA, and PageMaker working alone in PMSCT.PEA. I've also uploaded a couple of small Frontier scripts in the file FRONTSC.PEA. The various PageMaker scripts automatical-



STEVE MICHEL

ly format the electronic news stories that are available in the News Beat Files library of MacWEEK's ZiffNet forum (GO ZMC:MACWEEK).

I'd also like to see samples of what readers have done and hear how or whether scripting has helped you in using PageMaker. You can send me examples of your experiments at the addresses below. □

If you have any user scripting comments or products, questions or answers, send them to me at MacWEEK, ZiffNet/Mac (72511,151), or AppleLink (SMICHEL).



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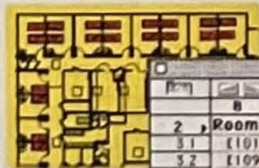
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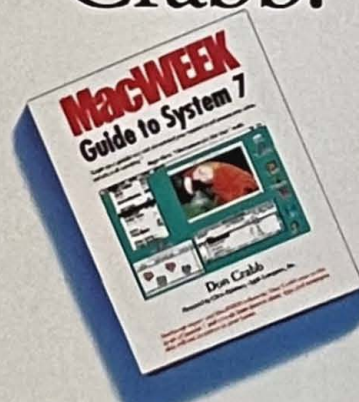
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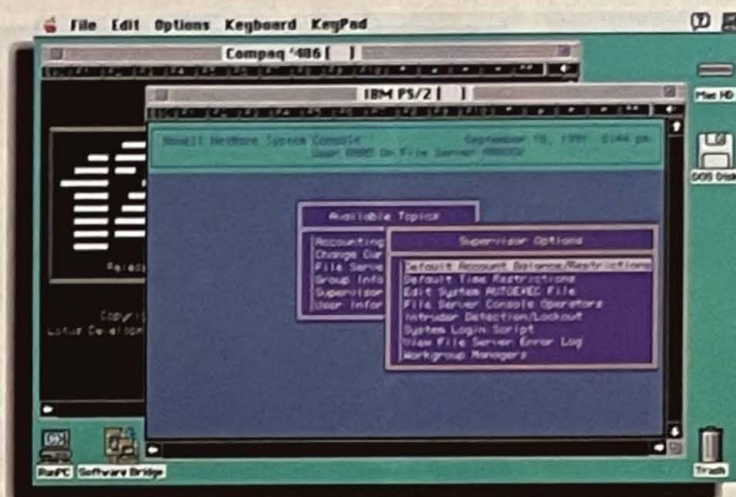
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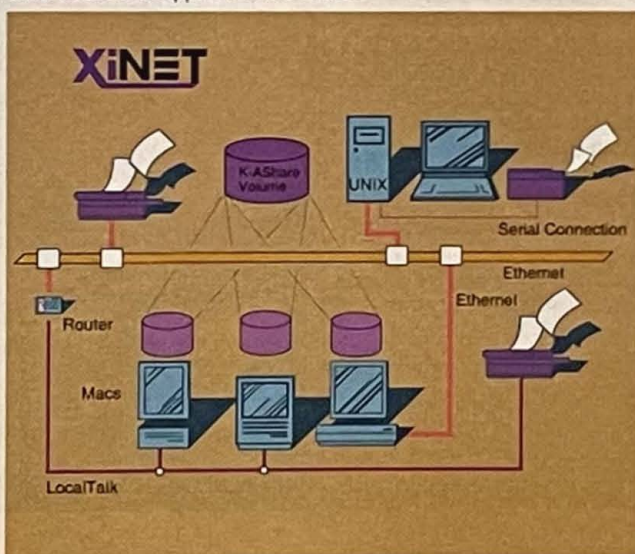


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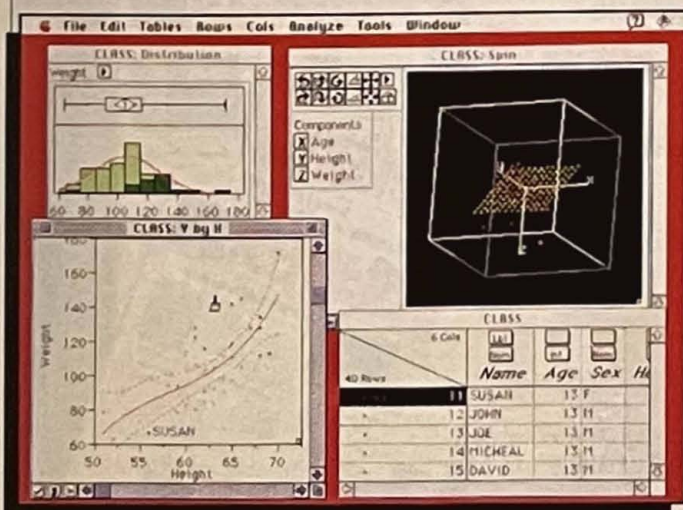
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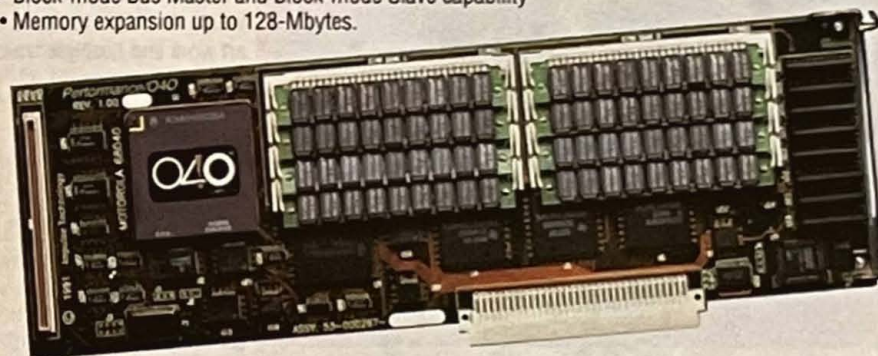
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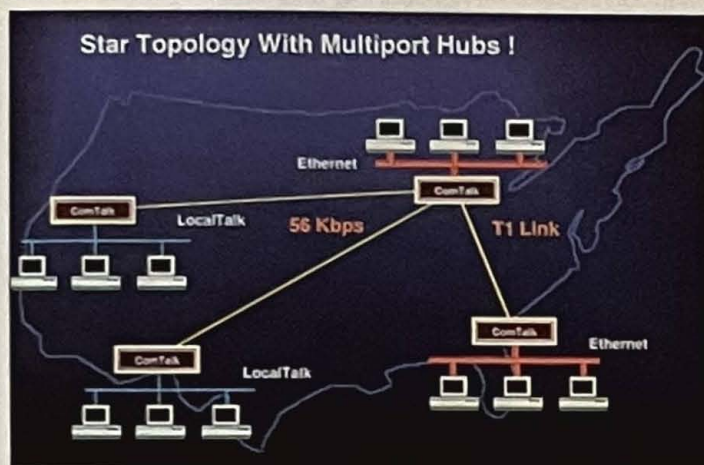
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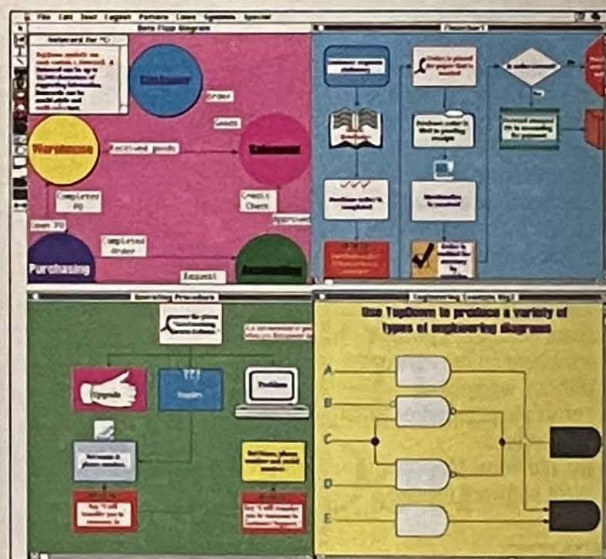
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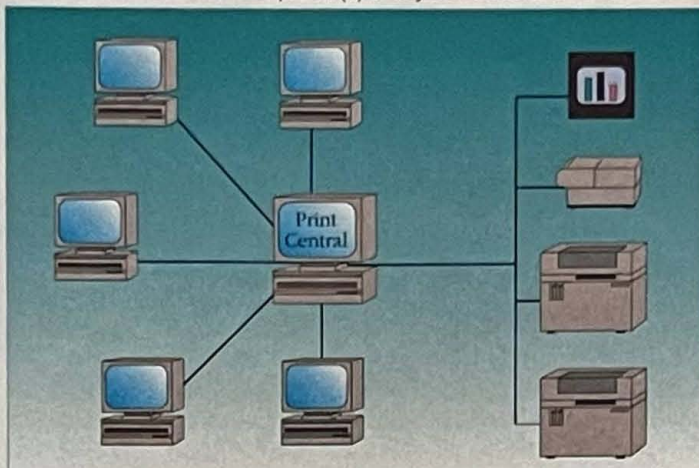
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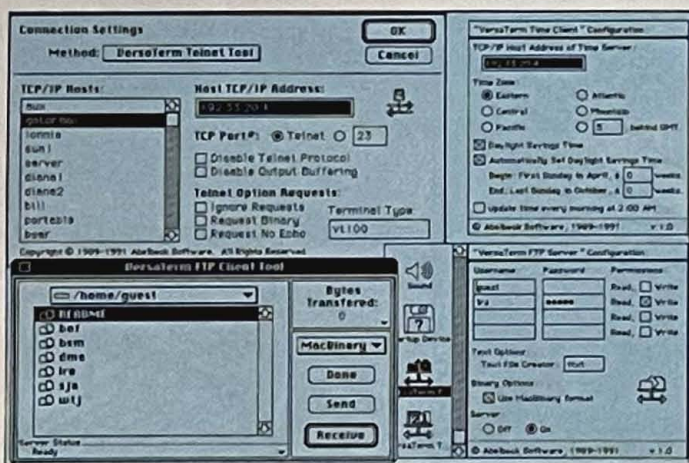
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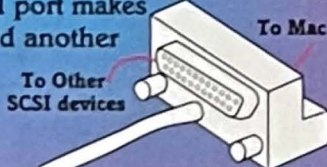


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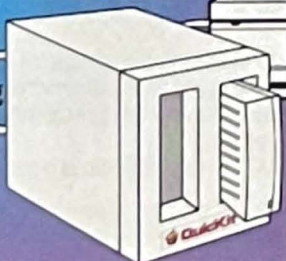
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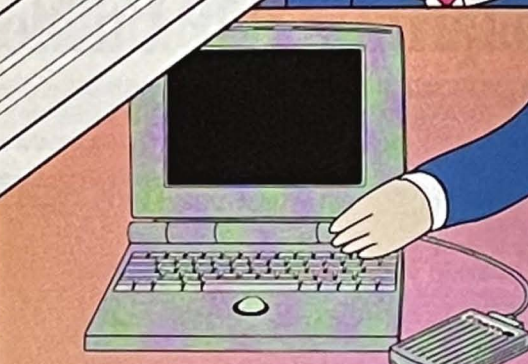
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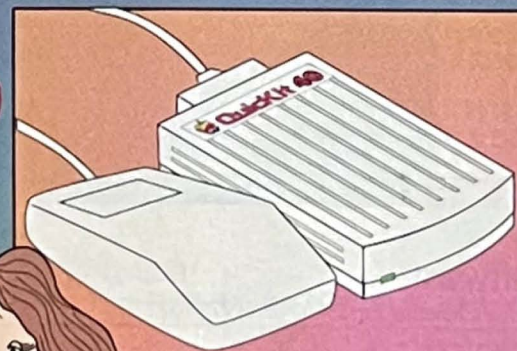
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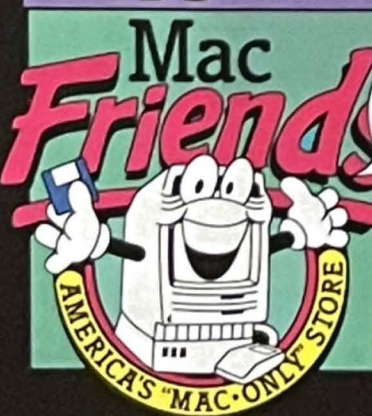
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Quadra 700 Designer Package
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ETC 105 Mb Quantum LPS, 12 msec	\$429.00
ETC 120 Mb Maxtor Cheyenne, 15 msec	\$429.00
ETC 120 Mb Quantum LPS, 11ms	\$519.00
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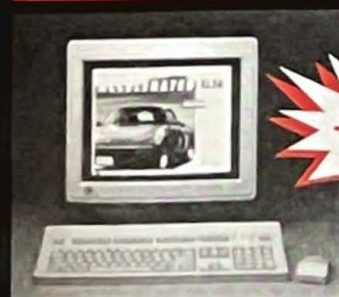
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Need to automate your office. Why not let Mac and MORE's team of sales specialists configure your entire office. This system even includes a nice complement of office software. Buy this office package without any substitutions and we will give you a FREE Macintosh Classic.

Features:

- 1 Macintosh Quadra 700—Apple's newest high-end CPU features a Motorola 68040. This system comes bundled with 20 MB of RAM and a 213 MB internal hard disk, an E-Machines T-16 monitor, Apple extended keyboard, mouse and microphone.
- 4 Macintosh Classic II Workstations—Twice as fast as the Apple Macintosh Classic, these workstations all come with 4 MB of RAM, a 40 MB internal hard disk, keyboard, mouse and microphone.
- 1 Apple LaserWriter IIx Printer—featuring Apple's new FinePrint technology, this is the ideal printer for the office.
- 2 ETC 88R Removable Drives—Each drive comes complete including a SyQuest 88 MB Cartridge. Perfect for moving around large files and archiving important company data.
- Complete Network and System Wiring—Apple builds all their CPUs so that they are network compatible. We provide telephone network adapters that link together with simple telephone wire. You can send electronic mail and share files over the built-in LocalTalk network. Everything is included to make the whole network talk.
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E-Machines T-16 Workstation Package

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\$21,743⁰⁰

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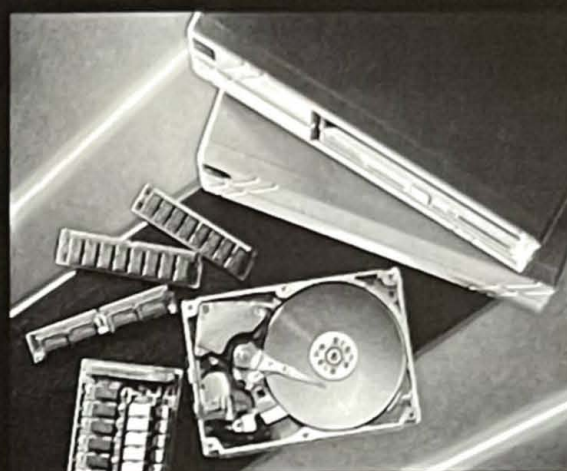
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SONY ETC 650 Mb Magneto-Optical Drive

Only ETC Peripherals could bring you a Magneto-Optical drive using the very popular SONY drive assembly at this price. This price includes the ETC 650 Mb M-O Drive, SCSI interface cable, external terminator block, power cord, manual, and ETC Tools 2.1.

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ETC 650 MB M-O Drive
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Features:

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- Faster Access—70 msec average seek time is an industry leader made possible by a compact and light mobile optical block



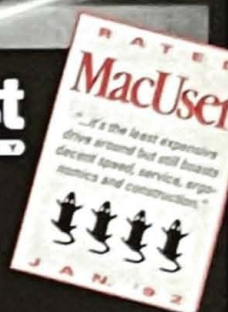
SyQuest

TECHNOLOGY

\$599⁰⁰

ETC 88R Removable Drive

The phones haven't stopped ringing since the review came out on this drive. The ETC 88R features a SyQuest 88 MB magnetic-cartridge drive in a zero-footprint half-height drive enclosure. Included with the drive is one SyQuest 88 MB removable cartridge, SCSI interface cable, external terminator block, power cord, manual, and ETC Tools 2.1.



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Special Introductory Offer
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\$39

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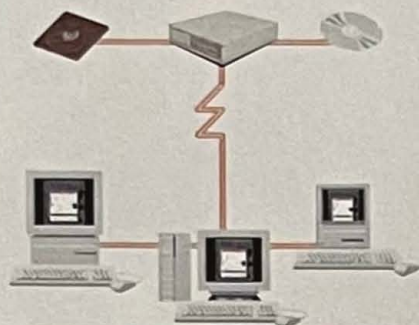
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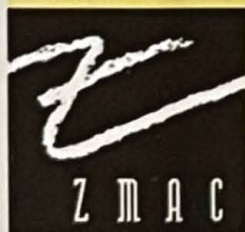
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MacUser Power Tools

MacUser custom power utilities

ZMAC NEVER SLEEPS



THE 24-HOUR ON-LINE CONNECTION TO MACUSER AND MACWEEK

HOW TO USE ZMAC

If you're a CompuServe user, just type **GO ZMAC** at any **!** prompt.

If you don't subscribe to CIS, sign up with Zmac by following these directions.

First, call (800) 635-6225 (voice) to find your local access number.

Second, set up your modem and telecommunications software with the following standard Macintosh settings: 8 bits, one stop and no parity.

Dial your local access number. When connected, press **RETURN**.

You'll see the following prompts on-screen. Your responses are printed in **BOLD**.

Host Name: **CIS**

User ID: **177000,5200**

Password: **Z*MAC**

Agreement Number: **Z12D9014**

You will then be prompted for additional information including a credit card number for billing purposes. If you cannot bill to a credit card, call the CompuServe Customer

support line listed below. **Sign-up is free**; however, normal access time is billed at \$12.50/hour.

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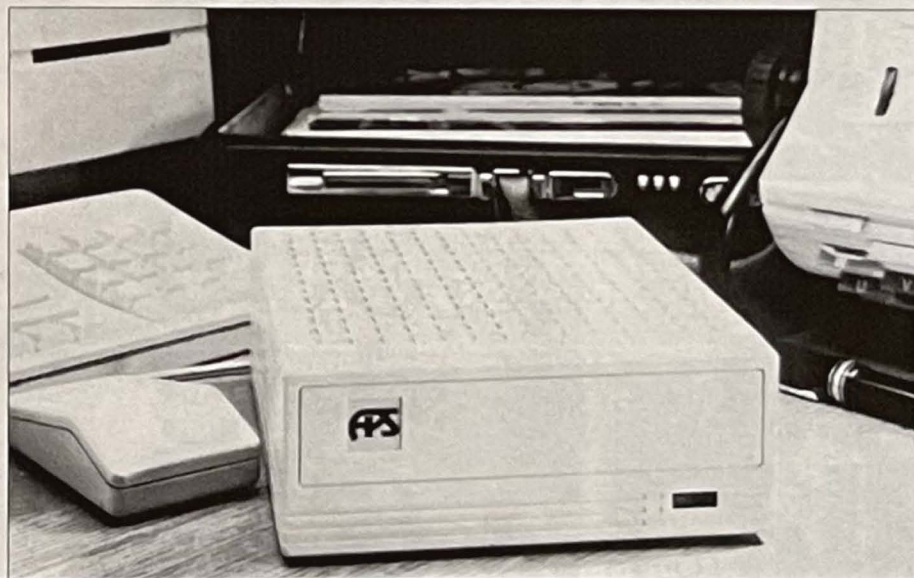
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Quantum Portable

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645-5401

240MB \$789

APS
TECHNOLOGIES

Prices & Specifications Subject to Change Without Notice

Quantum 240 MB \$699



Internal for most Macintosh models. External zero-footprint or compact, portable drives.

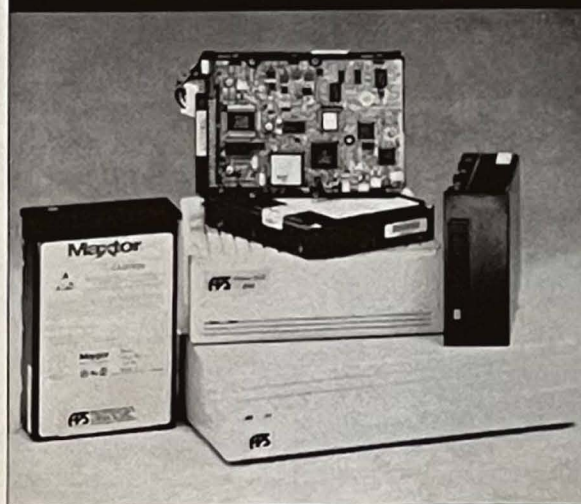
MB	INTL	EXTL
52	\$229	\$299
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105	339	429
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120	449	539
LPS120s		
210*	629	699
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213	579	679
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1.2G	2299	2499

WREN Drives

MB	INTL	EXTL
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425	1499	1599
600	1399	1549
630	1699	1799
1.2G	1949	2099

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based sub-systems

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2-year warranty

DAT
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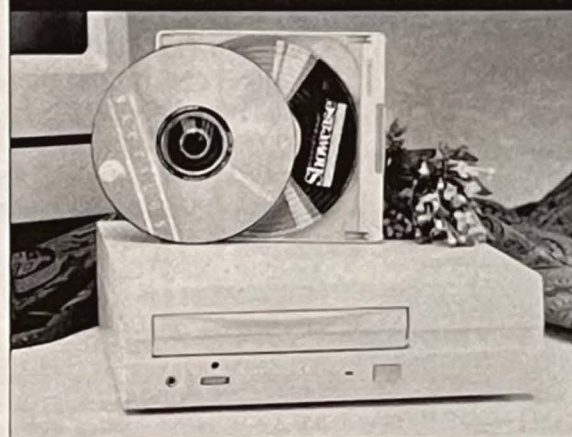
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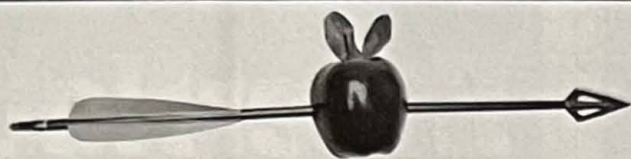
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- Sony 16" Trinitron \$1297
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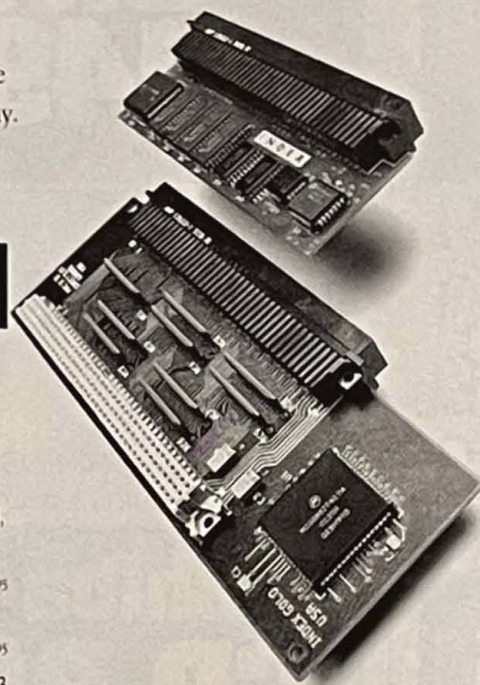
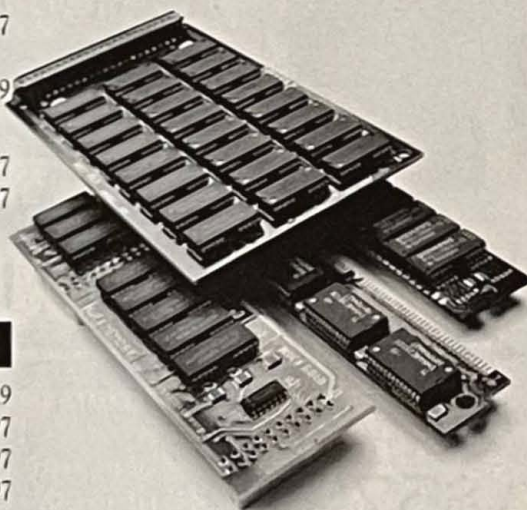
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• Please start/continue my FREE subscription to MacWEEK.

☐ 01. Yes ☐ 02. No

1 Your company's primary business activity at this entire location:

(Select one only.)

Write Answer Here →

Non-Computer Related

- 01. Aerospace
- 02. Architecture, Engineering
- 03. Research and Development
- 05. Communications: Graphic Arts, Publishing, Advertising, Public Relations, Promotion
- 06. Government
- 08. Manufacturing
- 09. Education
- 10. Finance: Banking, Accounting, Insurance, Real Estate
- 11. Health, Medical, Legal

- 12. Non-Computer Retailer, Wholesaler, Distributor
- 13. Agriculture, Mining, Construction, Oil, Transportation, Utilities

Computer Related

- 20. VAR/VAD
- 21. Retailer/Distributor
- 22. Systems House/Data Processing Service
- 23. Manufacturer (Computers, Software, Peripherals)
- 24. Computer Consultant
- 25. Other Businesses & Services (please specify)

2 Your Professional Title:

(Select one only.)

Write Answer Here →

- A. Chairman/President/Owner/Partner
- B. VP/General Manager/Controller/Treasurer
- C. Director
- D. Mac/Micro Manager/Specialist/Coordinator
- E. Network Manager
- F. Project Manager
- G. Art Director/Graphic Designer/Artist/Illustrator
- H. Manager/Supervisor (not listed above)
- I. Architect/Engineer

- J. Systems Analyst/Programmer
- K. Consultant/Advisor
- L. Scientist
- M. Educator
- N. Editor/Writer
- O. Professional (Doctor, Lawyer, etc.)
- P. Accountant
- R. Representative
- Z. Other (please specify)

3 Your department/function at this entire location:

(Select one only.)

Write Answer Here →

- A. Engineering/Systems Engineering
- B. Research & Development
- C. MIS/DP/Information Systems
- D. Communications/Publishing/Public Relations
- E. Art/Creative Design
- F. Manufacturing/Operations/Production
- G. Sales/Marketing

- H. Administration/Management/Personnel
- I. Accounting/Finance
- J. Education/Training
- K. Science
- L. Consulting
- Z. Other (please specify)

4 Are there Macintoshes or other PCs listed below owned and/or planned for purchase within 1 year at this entire location?

☐ Yes ☐ No

(Write in accurate quantity for all that apply):

	Currently Owned (Quantity)	Plan to Buy (0-12 Months) (Quantity)
MODULAR		
68040 Macintosh	2	
68030 Macintosh IIx / IIcx / IIx3	3	
68030 Macintosh IIsx	4	
68020 Macintosh LC	5	
Macintosh Portable/PowerBook	6	
COMPACT		
68030 Macintosh SE/30	7	
Macintosh Classic/Classic II	8	
68000 Macintosh SE / Plus / 512	9	
OTHER		
IBM/Compatible Micro	10	
Workstation (e.g. Apollo, Sun, NeXT)	11	

Please remember to sign and date the form. All questions must be answered completely, and be sure to provide specific numbers where requested. The publisher reserves the right to limit the number of free subscriptions. Thank you.

OFFER AVAILABLE IN U.S. AND CANADA ONLY.

5 If your firm's primary business at this location is retailing, reselling or consulting, how many Macintoshes are sold per year?

(Answer one only.)

- A. Retailer: sold per year _____ (specify quantity)
- B. Reseller: resold per year _____ (specify quantity)
- C. Consultant: purchased by your clients through your firm's recommendations per year _____ (specify quantity)

☐ D. Not Applicable

6 Please check the Mainframe(s) or Minicomputer(s) at this entire location:

(Check all that apply.)

- ☐ 01. VAX ☐ 02. IBM Mainframe ☐ 03. IBM Minicomputer ☐ 04. Other ☐ 99. None

7 Do you purchase, recommend, specify or approve any of the Macintosh/Compatible products listed below?

Computers

- ☐ 01. Macintoshes
- ☐ 02. Workstations
- ☐ 03. Minis, Mainframes
- ☐ 10. Local Area Networks
- ☐ 11. Modems
- ☐ 13. Communication/Network Software
- ☐ 14. Mac to PC Links
- ☐ 15. Mac to Mini/Mainframe Links
- ☐ 16. Mac to UNIX Workstation Links

Peripheral Equipment

- ☐ 20. Laser Printers
- ☐ 21. Color Printers
- ☐ 22. Color Monitors
- ☐ 23. Hard Disks
- ☐ 24. Backup Systems
- ☐ 26. Scanners
- ☐ 27. Input Devices
- ☐ 28. Removable Storage
- ☐ 40. Memory Boards
- ☐ 41. Graphic Boards
- ☐ 43. Ethernet Boards
- ☐ 44. Video Boards

Software

- ☐ 50. CAD/CAM
- ☐ 51. Graphics
- ☐ 52. Desktop Publishing/Fonts
- ☐ 53. Desktop Presentation
- ☐ 54. Database
- ☐ 55. Programming
- ☐ 56. Accounting, Payroll
- ☐ 57. Spreadsheets
- ☐ 59. Project Management
- ☐ 60. Word Processing
- ☐ 61. Utilities
- ☐ 62. Multimedia
- ☐ 99. None of the above

8 If you answered yes to the above computer products, for how many Macintoshes do you have this involvement?

(Select one only.)

Write Answer Here →

- 01. 1000+
- 02. 500-999
- 03. 100-499
- 04. 50-99
- 05. 20-49
- 06. 10-19
- 07. 1-9
- 99. None

9 Please indicate the networking/communications capabilities that the Macintoshes at this entire location have:

(Check all that apply.)

- ☐ 01. Local Area Network
- ☐ 02. Communicate with corporate workstations, mini or mainframe computers
- ☐ 03. Communicate with remote mini or mainframe computers
- ☐ 04. Communicate with mini
- ☐ 05. Communicate with mainframe
- ☐ 06. Communicate to remote network
- ☐ 07. Other (please specify)

10 Indicate how many employees there are in your entire company:

(Select one only.)

Write Answer Here →

- 01. 1000 or more
- 02. 100-999
- 03. Under 100

11 Please indicate operating systems currently in use at this entire location.

(Check all that apply.)

- Operating Systems**
- ☐ 01. Mac OS
- ☐ 02. Unix
- ☐ 03. System 7
- ☐ 06. Novell Netware
- ☐ 07. Irmalan
- ☐ 08. Unix/NFS
- ☐ 09. Sita (TOPS)
- ☐ 10. 3Com 3+ System
- ☐ 11. LAN Manager
- ☐ 12. Banyan VINES
- ☐ 13. Appleshare
- ☐ 14. DEC Pathworks
- ☐ 20. Other (please specify)

12 Indicate an additional individual at this location who might qualify for a FREE subscription to MacWEEK:

Name _____ Title _____

• Your Signature _____

Title _____ Date ____/____/____

PLEASE BE SURE THAT ALL QUESTIONS ARE ANSWERED.

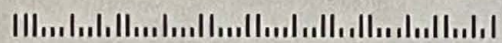
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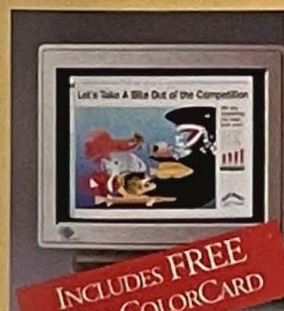
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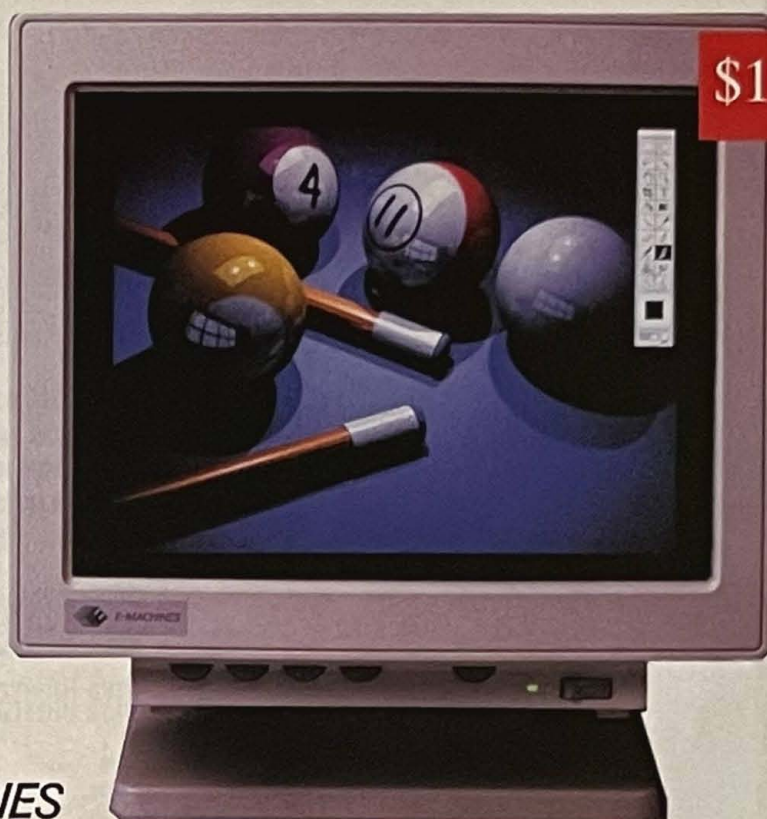


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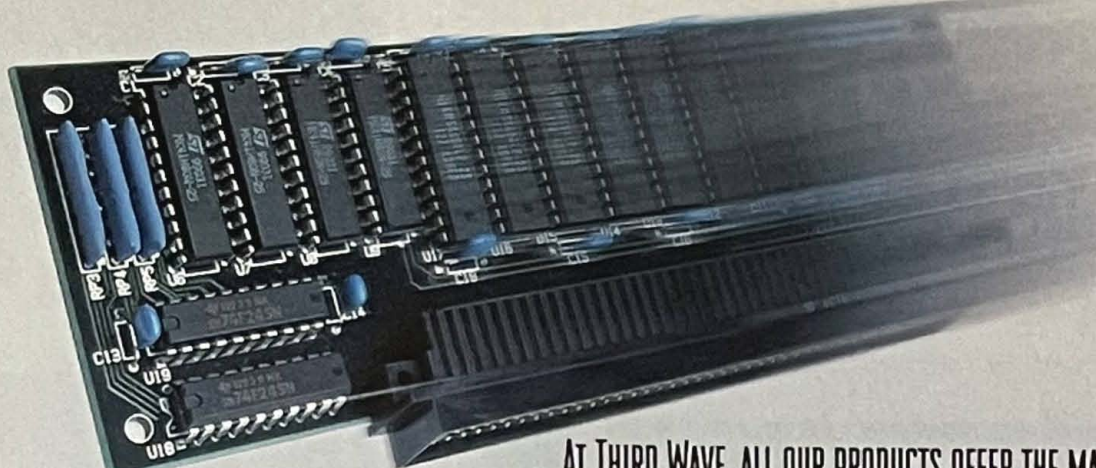
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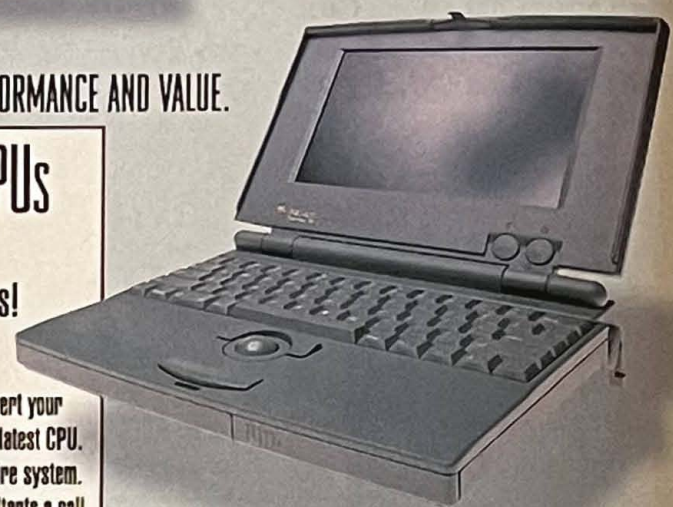
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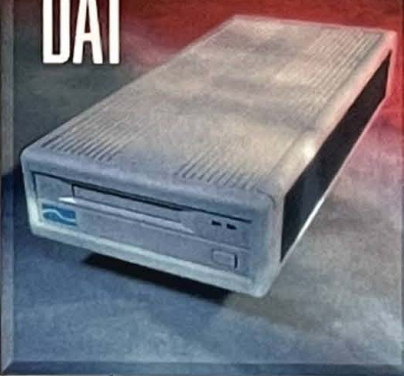
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This is a real computer that will work in the everyday real world, not just in somebody's lab. We put in enough memory and hard drive to meet your needs today and tomorrow. The RealTech TRAVLER 880's high-speed, high-capacity 80 Mb hard drive, 8 Mb of RAM and 1.44 Mb floppy drive make reading, loading and transferring files fast and easy. It even uses an easy-to-find camcorder battery, which can recharge while the TRAVLER is in use.

8 Mb of RAM & 80 Mb hard drive!

The RealTech TRAVLER has 8 Mb of RAM, upgradable to 14 Mb (nearly double the RAM of the Apple PowerBook 170)... enough memory to run almost any Macintosh program. (The TRAVLER 1480 has a whopping 14 Mb of RAM!) And with its high-speed, high-capacity 80 Mb hard drive, there's plenty of storage.

Can be connected to any Macintosh desktop computer.

Unlike the Apple PowerBook 170, the RealTech TRAVLER's SCSI port and cable (included free) make it easy to connect to any Macintosh computer with a SCSI port. Upon start-up, the TRAVLER's hard drive and floppy will appear directly on

your Macintosh desktop, just like any other hard drive or floppy. You no longer need to maintain two versions of each file (one for the desktop Macintosh and one for your notebook), since all of your files will permanently reside in the TRAVLER. When you're ready to leave the office, just shut down the desktop Macintosh, disconnect the TRAVLER's SCSI cable, and you're on your way. No more disk swapping to maintain your files.

Takes the place of a Mac IIci. So you only need one computer, not two.

Now you only need one computer for office and travel, and only ONE set of datafiles! The RealTech TRAVLER is so powerful it can double as your desktop computer. When you add an optional full-page display or 21" dual-page display, mouse, and keyboard, its specifications are comparable to a Mac IIci. So why would you buy one of those when you could own a RealTech TRAVLER that you can take with you?

The RealTech TRAVLER is fully authorized by Apple Computer, Inc.

It's the best portable solution available. When has the decision to buy a computer ever been such an open and shut case?

All trademarks are the property of Apple Computer, Inc. and MBSI.

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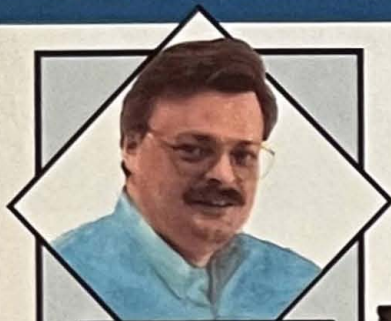
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HARDWARE THAT FITS If you don't like it,



"I've been in this business for six years, and I've NEVER been this excited about printers!"

PostScript® Level 2 is the next generation of Adobe's page description language. It contains a number of significant performance and print quality enhancements, and is compatible with all current applications which support the PostScript® language.

Best of all, the time-saving features of PostScript® Level 2 are available RIGHT NOW in our RealTech Laser and RealTech Laser 400:

- **IMPROVED MEMORY MANAGEMENT.** One pool of memory is available for all resource needs. Dynamically allocated and automatically reclaimed; no arbitrary memory restrictions exist. Better disk space management eliminates fragmentation and improves transfer of information from hard disk to RAM.

- **ATM FONT RENDERING TECHNOLOGY.** Raw characters are built 4 to 5 times faster.

Features available through software applications:

- **COMPRESSION.** Reduces transmission time by sending compressed files directly to the printer.

- **FORMS SUPPORT.** You can define a base form whose representation stays cached in the printer.

- **COMPOSITE FONTS.** Handles very large character sets and non-horizontal writing modes."

Real Provencher

President
Hardware That Fits

RealTech Laser	QMS 810 Turbo w/HD	Apple NTX w/HD	QMS 410	TI MicroLaser 35	Apple Pess'l LaserWriter
Street prices:					
\$1995	\$3995	\$4295	\$1995	\$1749	\$1995

* On average, the RealTech Laser performed 4 to 5 times faster than other non RISC-based laser printers in its price range.



RealTech Laser

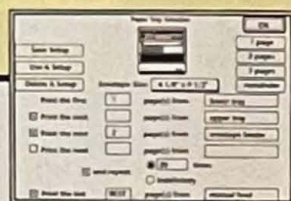
Only \$1995!

2 Mb RAM, upgradable to 10 Mb! The only printer of its kind with this much RAM and hard disk expansion capability. Includes a SCSI port for a hard disk. The RealTech Laser includes 35 resident PostScript® typefaces. Compact design (only 33.5 lbs.; measures 13.4"W x 14.2"D x 10.9"H).



POSTSCRIPT®
Software From Adobe
LEVEL 2

The RealTech Laser and RealTech Laser 400 were specifically designed for sophisticated graphics and font-intensive applications. For speed and performance, they're based on a RISC-based (Reduced Instruction Set Computing) processor and PostScript® Level 2 software from Adobe.



You can specify up to 4 paper changes without moving anything but your mouse!

500% faster!*

- RISC processor
- 2 paper trays
- 9 pages/minute
- SCSI port

PC-compatible; its 3 interface ports can be used at the same time. Includes Appletalk® RS-422, IBM PC parallel, and RS-232-C serial interface ports (can be assigned either PostScript® or LaserJet II commands). Auto switches between interfaces, and spools files on a real-time basis. A Hewlett-Packard LaserJet Series II emulation allows use with non-PostScript® applications software.

TWICE THE PRINTER.
400 dpi, 11x17 printer

High speed!

- RISC processor
- 16 ppm (letter size)
- 8 ppm (11x17)
- SCSI port
- 2nd paper tray



RealTech Laser 400 Only \$4495!

4 Mb RAM, upgradable to 16 Mb! Prints 400 dpi, or high speed (16 ppm) at 300 dpi. 35 resident PostScript® typefaces. Compact design (20.25"W x 16"D x 11.75"H) weighs 80.5 lbs. 20,000 pages/mo. duty cycle. Call for other technical specifications.

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\$1939 \$1249

TI TurboLaser™ 300 dpi with Adobe PostScript Level 2 and RISC-based processor. 2.5 Mb RAM. Nine pages per minute; 35 resident fonts; 10,000 pages per month duty cycle. Optional accessories: 2nd paper tray, SCSI interface.

TI MicroLaser™ Plus. 300 dpi with HP LaserJet Series II emulation standard. 1.5 Mb RAM. Nine pages per minute; 17 resident fonts; 3,000 pages per month duty cycle. Optional accessories: 2nd paper tray, separate envelope tray.

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Mac IISI 14" Trinitron System: 5 Mb RAM, 105 Mb Quantum, MacPro Plus Keyboard.....3629



Mac IICI 14" Trinitron System: 5 Mb RAM, 105 Mb Quantum, MacPro Plus Keyboard, Cache Card.....4215



Mac IIfx 19" Trinitron System: 1 Floppy Drive, 8 Mb RAM, 303 Mb MicroNet Hard Drive, 24-bit Color Monitor and Video Card, MacPro Plus Keyboard.....8895



Mac IICI B/W 21" Dual-Page System: 5 Mb RAM, 105 Mb Quantum, MacPro Plus Keyboard.....4595

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High-resolution Trinitron tube...view 16 million shades of color! 640 x 480 resolution, 72 dpi. 14" display has integrated tilt & swivel base. Includes RasterOps 24S video card. **It's 43% brighter than the leading competitor!**

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CONNECTION

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ColorBoard 24XLI	2349
ColorBoard 24STV	1199
ColorBoard 24XLT	2689
ColorBoard 264SE/30	599
ColorBoard 8LC	599
ColorBoard 8XL	469
CorrectColor Calibrator	2019
ImagePak Still Compression	335
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14" Trinitron 24-bit	979



RasterOps 24XLT \$5819

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The latest in 24-bit technology. Live video and on-board acceleration, 16.8 million colors, 72 dpi, 75 Hz refresh rate. A full two pages of vibrant color!

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CPU	Monitor	Price
Mac SE	Mono	\$995
Mac II, IIcx, IIci	Mono	995
IIx, IIlx, SE30	GS 256	1479
Mac IIsi	Mono	1059



RealTech Full Page Display \$579

Quality, flicker free images at a price that lets you experience the convenience of large screen viewing.

15" portrait display has 870 x 640 resolution, 80 dpi. Vertical refresh rate of 74 Hz, full grayscale capability, and flat CRT, (P4 phosphorus), polished screen. One-year warranty.

CPU	Monitor	Price
Mac II, IIcx, IIci	Mono	\$579
IIx, IIlx, SE, SE/30		
Mac II, IIcx, IIci	GS 256	1079
IIx, IIlx		
Mac IIsi, IIci	GS 16	495

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Real Provencher

\$1399 Microtek 600 DPI Scanner

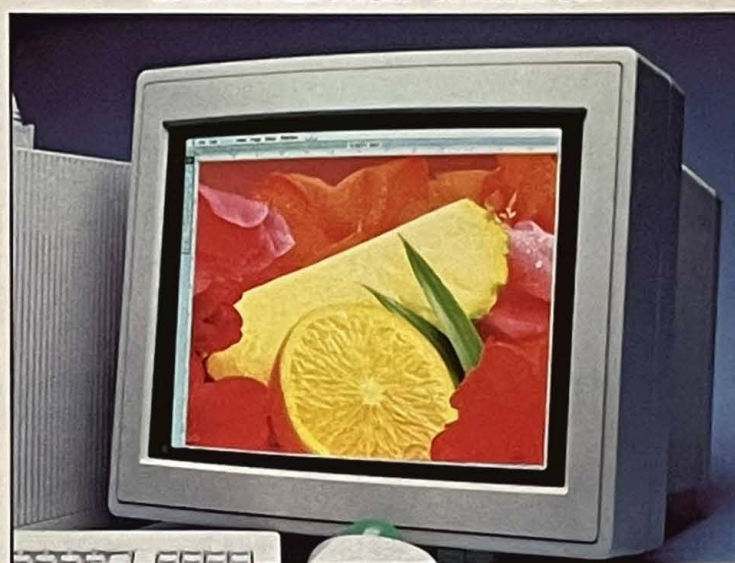
Scanmaker 600ZS Color Scanner includes Adobe Photoshop — full version, with 24-bit color editing and color separation capabilities.

High-resolution color scanner capable of scanning 16 million colors at up to 600 dots per inch. Outstanding image quality in a compact, flatbed design.



- 16.8 million colors
- 3 scanning passes (red, green and blue filters)
- 14 brightness settings for each color plane
- Scanning speed 150 seconds

INTRODUCING the RealTech Trinitron



RealTech Trinitron Systems \$2899!

The monitor solutions that break the price barrier for 19" Trinitrons!

Our 24-bit system includes the RealTech RT-24 video card with pan-zoom and extended desktop and G-world support. Socketed for up to 16 Mb of RAM! State-of-the-art engineering. On-board QuickDraw acceleration, 75 Hz vertical refresh rate. View 16.8 million colors at 72 dpi! 1024 x 768 resolution. Our 8-bit system includes the RealTech RT-8 video card...an affordable 19" color system!

CPU	Monitor	Price
Mac II, IIx, IIcx, IIsi*, IIci, IIlx, SE/30, LC, Quadra 700 & Quadra 900	8-bit system	\$1899
Mac II, IIx, IIcx, IIci, IIlx, Quadra 700 & Quadra 900	24-bit system (accelerated)	\$2899

*IIsi solution retains PDS slot for the RealTech cache card.

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TransWarp SE 68030-25MHz (with 25MHz68882)	739
TransWarp SE 68030-40MHz (with 40MHz68882)	1369
TransWarp LC-33MHz	749
TransWarp LC-40MHz	969
HD Superdrive 1.44	215
QuadraLink	189
FastMathLC	155
LC Heavy-Duty Power Supply	99
Quick Silver	219

FUSION DATA SYSTEMS



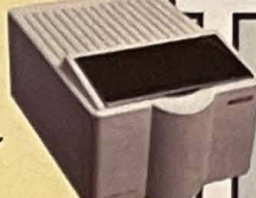
TokaMac 68040 Accelerator Boards

Highest performance upgrade available for the IIci, IIsi, SE/30 or LC. TokaMac runs applications up to 300% faster than a IIcx!

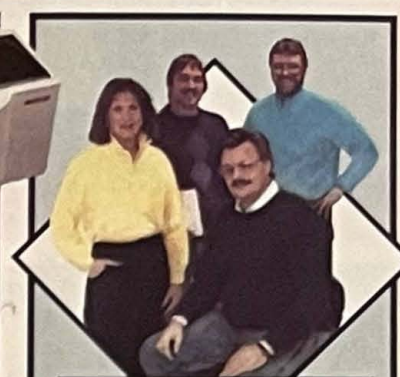
Provides significant productivity improvement to users whose primary applications include CAD, multimedia, graphics, modeling, simulation and analysis, animations, spreadsheets, and heavy (number-crunching) routines. Processes at 20 MIPS and 3.5 MFLOPS. System 7.0 compatible; no re-booting required.

TokaMac CI	2149
TokaMac SX (SE/30 and Si)	2019
TokaMac LC	1879

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The affordable 35mm color slide scanner. Scans landscape or portrait slides at 1850 dpi. Captures 24-bit color and 8-bit grayscale. Bundled with PhotoShop, you'll be able to produce 4-color separations from your color slides. A great scanner at a great price!



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Electrostatic 12 x 18	1249
Standard 12 x 12	779
Standard 12 x 18	1169
Standard 6 x 9	549

Choice of stylus or 4-button cursor. CALL FOR OTHER SIZES AND TYPES.

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Zoom V.42 bis	139
Zoom 9600 V.32/V.42 bis	419

REALTECH CACHE CARDS

"...cache cards are simple, efficient, cost-effective enhancements for an already speedy Mac."

— MacUser, June 1991

IIci Cache Card	159
IIsi Cache Card	169
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RasterOps Real Tech

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FARALLON

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- Includes Interface card



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• Plug compatible with the Mac LC



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• Plug compatible with the Mac LC



14" Goldstar Color \$368
• Plug compatible with the IIsi, Ci and the LC



Samsung 20" Mono System \$598.00

Sampo 20" Mono System \$698.00

Grey Scale System \$998.00

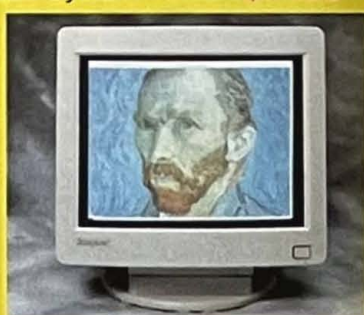
- We have made a special purchase of these monitors, specially priced while supplies last!
- Includes 1 bit or 8 bit Video board and cable
- 2 page displays
- Tilt & Swivel base
- Support all Mac IIs', the SI, SE-30, SE and the LC



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W/RasterOps 8Bit.....\$1598
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16" Philips Color System
8Bit System\$1198



20" Ikegami Trinitron System
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- 8 1/2 x 14 Scanning area
- Includes full release vers. of Adobe Photoshop 2.0
- Rated fastest by MacUser(Dec '91)
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90 MB	3.5" 3yr warr, 50,000 MTBF	\$298	\$368
135 MB	3.5" 3yr warr, 50,000 MTBF	\$378	\$448
185 MB	3.5" 3yr warr, 50,000 MTBF	\$498	\$568
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	• 3 year warranty! 50,000 hours MTBF (Mean Time Between Failure)		
330 MB	3.5" 9ms Access	\$1138	\$1238
425 MB	3.5" 9ms Access	\$1188	\$1288
520 MB	3.5" 9ms Access (The Fastest 3.5" Available!)	\$1258	\$1358
	• Incredibly fast the PB-4 drives are the fastest 3.5" drives we have tested!		
	• 5 year warranty! 200,000 hours MTBF (Thats 22 years of continuous operation!)		
680 MB	5.25" 16ms 5 yr warr., 200,000 MTBF*	\$1288	\$1388
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*Mean Time Between Failure is the average life expectancy of a drive.

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	Internal	External
420 MB 3.5" 5 yr warr. 13ms 150,000 MTBF*	\$998	\$1098
•The Hitachi 420 is our best value drive ever!		
1.6 Gig 5.25" 5 yr warr. 12ms 150,000 MTBF*	\$2798	\$2898
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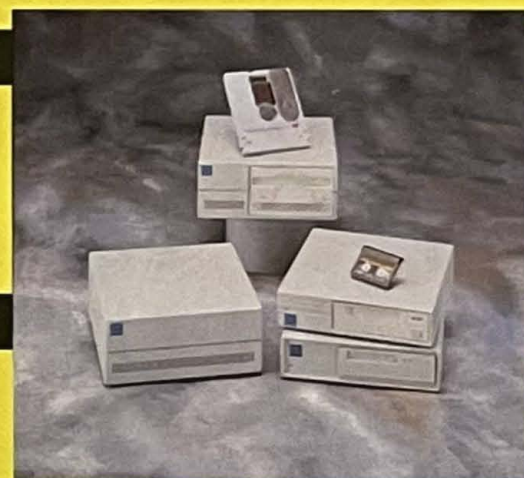
*Mean Time Between Failure is the average life expectancy of a drive.

Ricoh Optical

- 600mb Optical.....\$1998.00!
- Read write reliable storage
 - Great for archiving, color scans, etc.
 - Includes cartridge.
 - Available in ISO andnon-ISO

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- Includes driver CD carrier and cables
 - 325ms access time
 - MacWorld and MacUsers Highest Rated CD-ROM!
- Chinon CDC-431.....\$598
- Includes driver CD carrier and cables,
 - 350ms access time, includes 12 function audio remote control



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- 88MB Removable\$648.00
- 19ms Access time
 - Both Drives include Cartridge
 - Dual AC Outlets, 40 Watt power supply
 - SCSI Select and 2 Year Warranty

Quantum Drives

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Q 105 MB 3.5"LPs	\$368	\$448
Q 120 MB 3.5"	\$448	\$548
Q 170 MB 3.5"	\$598	\$688
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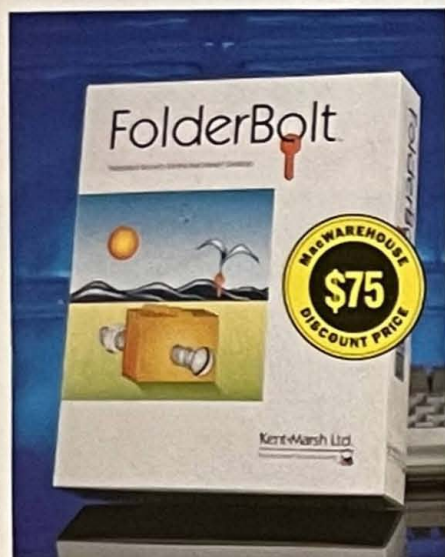
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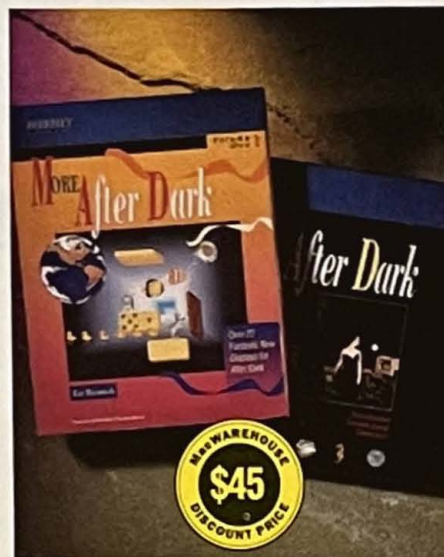
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(Kent Marsh) "FolderBolt compliments the desktop... Subtle yet sensible. Takes the edge off security. Redefines standards." MacTutor July 1991. Simply shift-click to create completely locked folders, read-only folders, or drop folders. Once locked they can't be opened, duplicated, deleted or moved until you double-click & provide the password. Features complete unlocking at start up, activity logging, and locking at shutdown. Includes full administrator override. FolderBolt is a welcome addition to the Mac security arsenal MacWeek June 1991. The only desktop security that's System 7 Savvy. UT10212 FaxFACTS 6549



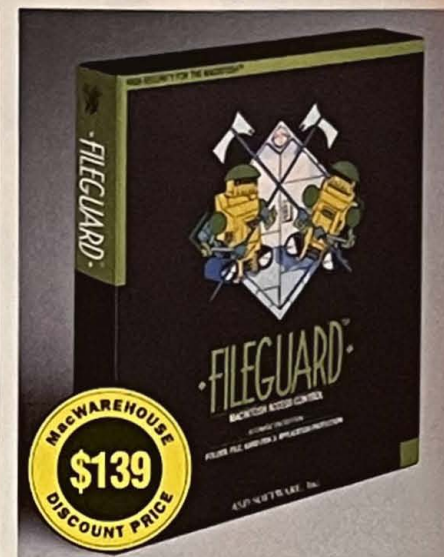
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(Berkeley Systems) After Dark 2.0 displays over 35 screen savers including Flying Toasters and Fish! Many modules include sound effects. System!Q monitors activity so that After Dark won't slow down long file transfers, database sorts, or backups. Password protection maintains your privacy when you leave your machine. More After Dark has over 25 fascinating new displays. It includes the Virex-D virus detector module, plus Mowin' Man, Tunnel, GraphStat, and many beautiful fish. Crazy Kittens, Art Museum, and Lunatic Fringe game module will entertain you and prevent screen burn-in. (Requires After Dark software) UT10231 FaxFACTS 6564



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(DayStar) Get 100% compatibility with 33.40, 50 MHz PowerCache. Here's the affordable way to get the maximum from your software. DayStar's proprietary technology combines a blazing fast 68030 processor with a superfast RAM cache. Now you can get 1040 performance with proven 1030 compatibility including System 7.0 virtual memory. Accelerates virtually every function in all applications. An optional math chip is a real time-saver for spreadsheet recalcs and scientific tasks. The universal design makes it easily transportable to almost every Mac including the SE/30, II, IIfx, LC, LCi, IIsx & IIfx. Guaranteed 100% compatible. 40 MHz w/882 FaxFACTS 4904



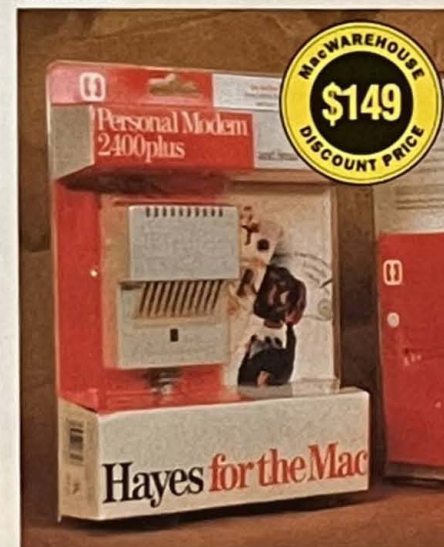
FileGuard 2.7

(ASD Software) "It's sleek, fast, and safe. I highly recommend it." MacUser April, 1991. Protect your Hard Drives and Partitions from unauthorized access (including security bypass with a system diskette), copying and erasure; Applications and File/Folders (including system folder) from unauthorized access, deletion, and/or illegal copying; Desktop (including system folder) from alterations by unauthorized user; Keep an eye on System Usage with the system users log which continuously tracks user/group activity. System 7.0 compatible UT10135 FaxFACTS 6806



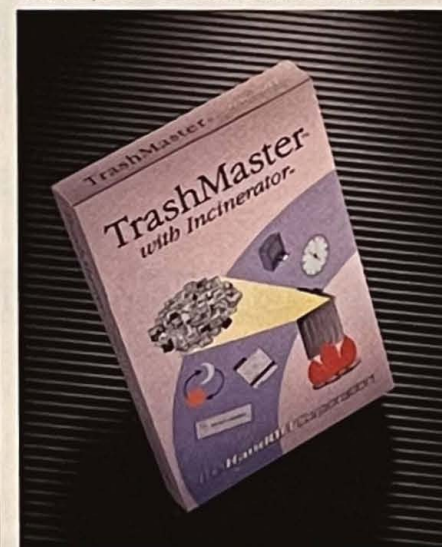
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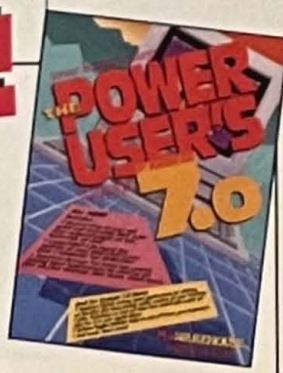


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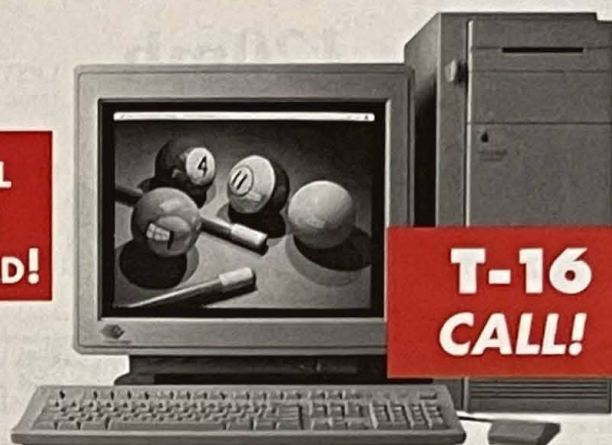
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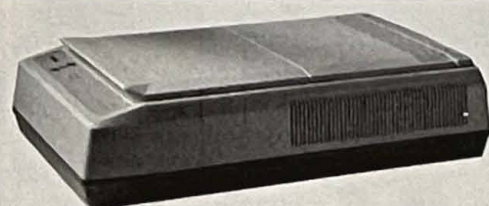
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Quantum

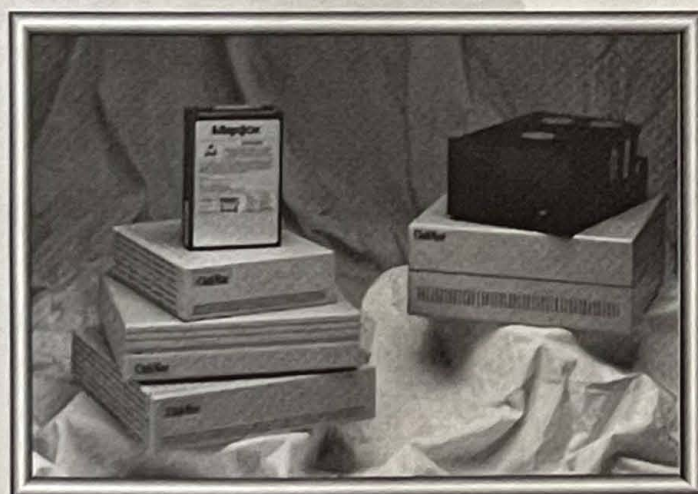
Capacity	Model Number	Product Description	Internal	External
50mb	LPS50	3.5" Low Profile 9ms/25ms*	\$215	\$275
105mb	LPS105	3.5" Low Profile 9ms/25ms*	\$335	\$395
120mb	LPS120	3.5" Half Height 10ms	\$405	\$465
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 • Up to 4.8 MB/sec SCSI data transfer rate
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330mb	M2622SA	3.5" Half Height 9ms	\$1119	\$1179
425mb	M2623SA	3.5" Half Height 9ms	\$1189	\$1249
520mb	M2624SA	3.5" Half Height 9ms	\$1249	\$1309
345mb	M2261SA	5.25" Full Height 16ms	\$1189	\$1289
645mb	M2263SA	5.25" Full Height 16ms	\$1259	\$1359
1.2GIG	M2266A	5.25" Full Height 11.5ms	\$1919	\$2019



Maxtor®

Capacity	Model Number	Product Description	Internal	External
80mb	7080	3.5" Low Profile 17ms	\$289	\$349
120mb	7120	3.5" Low Profile 15ms	\$349	\$409
207mb	LXT-213	3.5" Half Height 15ms	\$589	\$649
330mb	LXT-340	3.5" Half Height 15ms	\$939	\$999
535mb	LXT-535	3.5" Half Height 12ms	\$1449	\$1509
645mb	XT-8760S	5.25" Full Height 16.5ms	\$1389*	\$1489
1.0GIG	PO-12S	5.25" Full Height 13ms	\$1879*	\$1979
1.4GIG	PI-17S	5.25" Full Height 13ms	\$2489*	\$2589

Maxtor 3.5" Drives include a ONE Year Warranty and Maxtor 5.25" Drives include a TWO Year Warranty. Maxtor Drives include the ClubMac Package. Maxtor 80 and 120 are perfect for the Mac Classic, LC, and IIsi. *Internal Full Height Drives fit the Mac II, Ix & Quadra 900 only. (Add \$10 for Quadra 900 bracket)



SyQuest

44mb	SQ555	\$429
88mb	SQ5110	\$589
Dual 44mb		\$779
Dual 88mb		\$1099
Dual 44mb & 88mb*		\$989
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88mb Cartridge		\$109

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Teac MT-2ST/F50	600mb	\$779
WangDAT 1300XL	2.0GIG	\$1295
WangDAT 2000	3.0GIG	\$1569
Exabyte 8200	2.2GIG	\$2095
Exabyte 8500	5.0GIG	\$3329
Hewlett Packard DAT 35470A	2.0GIG	\$1439
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- Color Pivot Display
- Pivot Display
- Full Page Display
- Precision Color Display/19
- Precision Color Display/20
- Color Display/21

Graphic Systems

Color Pivot Display Systems

- Compatible with SE/30, LC, IIsi, II NuBus

Pivot Display Systems

- Compatible with LC, SE/30, II NuBus

Full Page Display Systems:

- Compatible with Classic & SE (monochrome)
- Compatible with LC, SE/30, II NuBus (gray scale)

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- \$693
- \$572
- \$2067
- \$2728
- \$2844

- \$1765
- \$944

- \$759
- \$823

Radius Graphic Systems

Precision Color Display/19 Systems:

- with PrecisionColor 8, 8si Interface \$2570
- with PrecisionColor 8X, 8Xsi Interface \$2805
- with PrecisionColor 24X, 24Xsi Interface \$3707

Precision Color Display/20 Systems:

- with PrecisionColor 8, 8si Interface \$3231
- with PrecisionColor 8X, 8Xsi Interface \$3466
- with PrecisionColor 24X, 24Xsi Interface \$4368

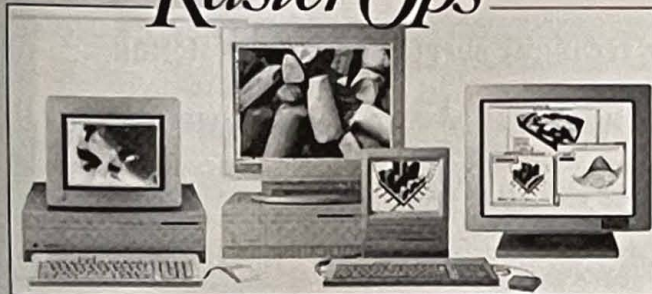
Two Page Display/21 Systems:

- with TPD Interface for SE, SE/30, IIsi, II NuBus \$1522
- with PrecisionColor 8, 8si Interface \$1648

Acceleration

- Radius Rocket (Mac II, IIfx, IIfx, IIfx) \$1640
- Radius Rocket 25i **New!** \$1230

RasterOps



Monitors

- 21" Color Hitachi (1152 X 870 at 77 dpi) \$2764
- 19" Color Trinitron (1024 X 768 at 72 dpi) \$2640
- 19" Color Trinitron Sign. Series Black (1024 X 768 at 72 dpi) \$2640
- 19" Color Hitachi (1024 X 768 at 72 dpi) \$1719
- 21" Monochrome/Gray Scale (1152 X 870 at 77 dpi) \$1106
- 19" Monochrome/Gray Scale (1024 X 768 at 72 dpi) \$799

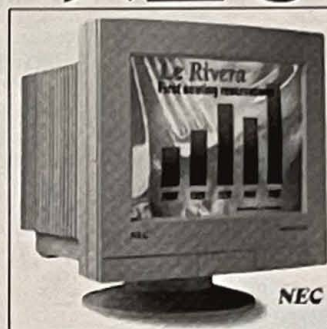
Graphic Display Boards

- 24Sx (13" 24-bit Accelerated) \$376
- 24si (13" 24-bit Accelerated) \$552
- 264/SE30 (13" 24-bit Color for SE/30) \$559
- 24XLi (21" 24-bit Accelerated Color) \$2198
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- includes ONE year warranty
- works with Mac LC & Mac II Family

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- Flat square, non-glare, anti-static, high contrast surface • 1028 X 768 non-interlaced resolution

- NEC MultiSync 5FG Color Monitor (17") \$1465

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- NEC MultiSync 6FG Color Monitor (21") \$3019

- Digitally-controlled multiple frequency monitor with NEC's exclusive AccuColor Control System
- 21" flat square display • 0.28 mm dot pitch • 1152 X 870 resolution

- Mac FG 8X Interface Card \$783

- Supports 8-bit color depth, includes on-board QuickDraw acceleration for faster graphics processing
- Resolution supported: 640 X 480 up to 1152 X 870

- Mac FG 24X Interface Card \$1655

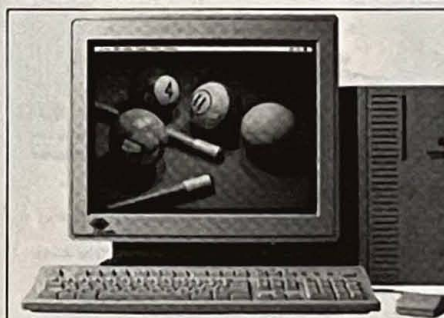
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- Quadra built-in video products 832 X 624 resolution with 24-bit color

- Futura SX \$834

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- 21" Platinum 2-Page (Gray Scale, 1152 X 870 at 77 dpi) \$1179

Graphic Display Boards

- Spectrum/24 Series III \$1967
- Spectrum/8•24 PDQ (NuBus or IIsi) \$917
- Spectrum/8 si, LC, Series III (NuBus) \$524
- ColorCard 24 \$508
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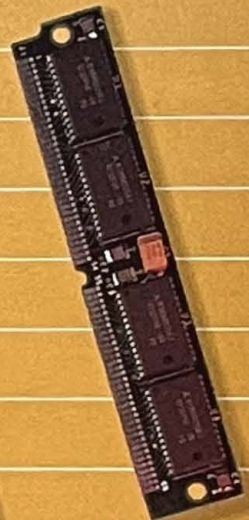
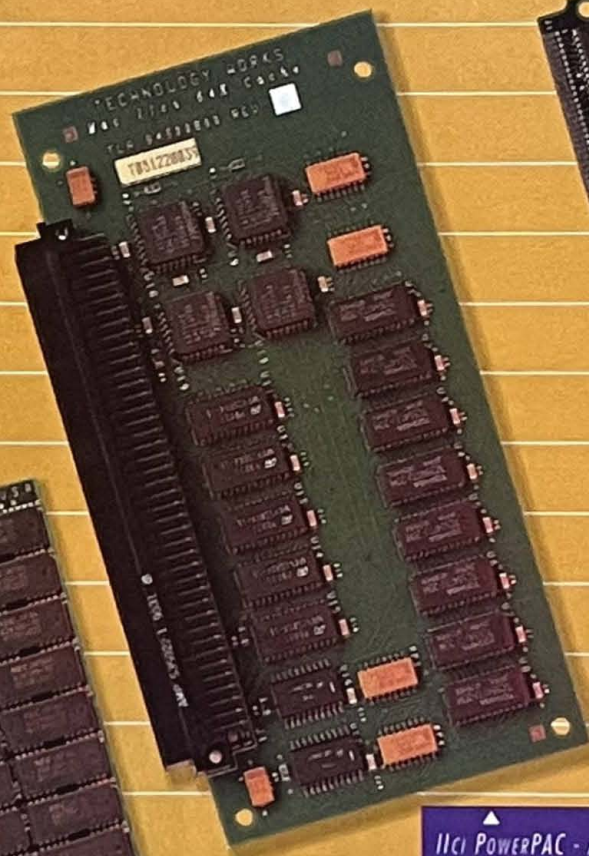


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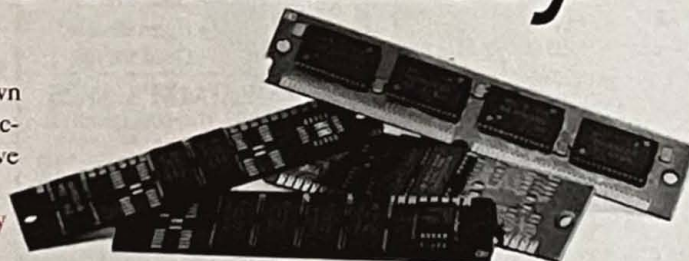
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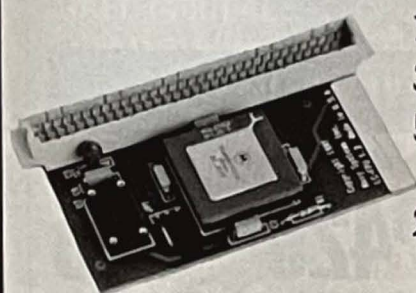
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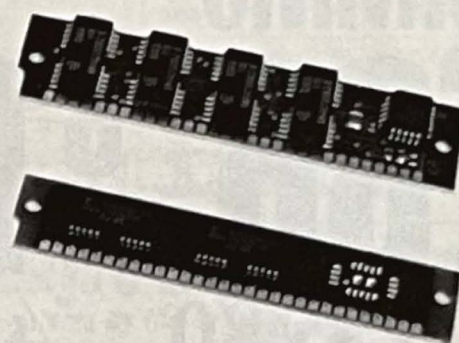
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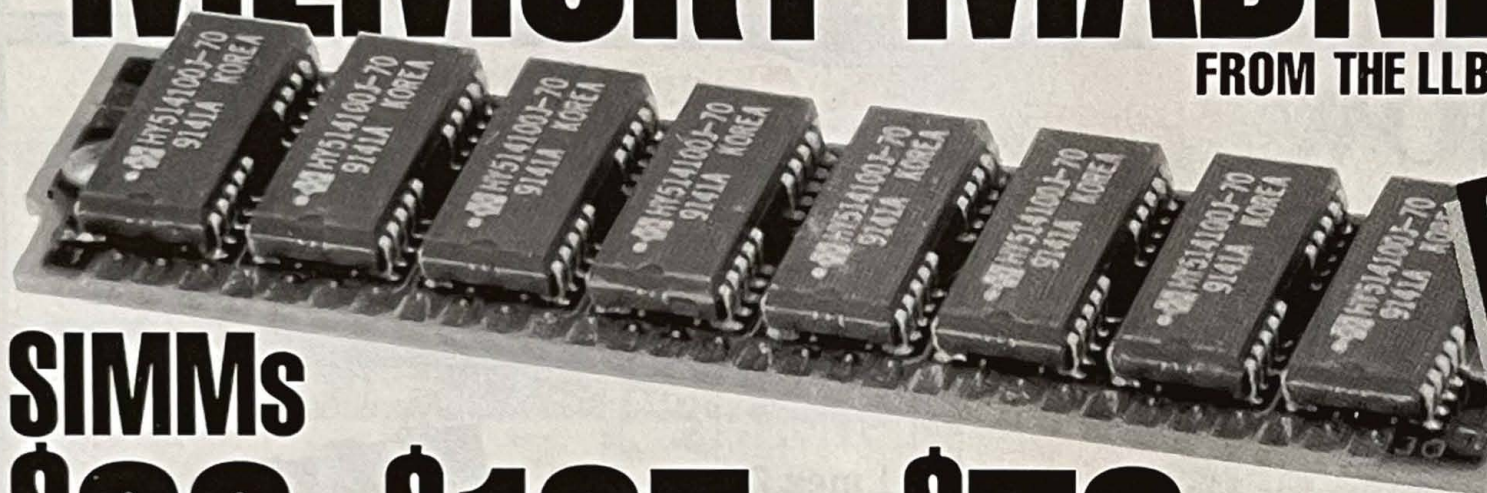
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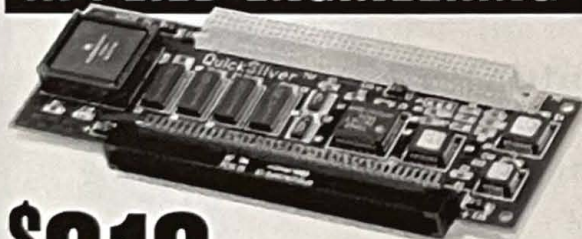
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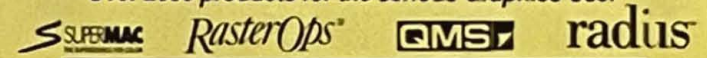
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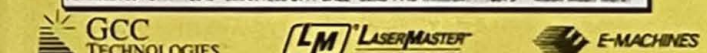
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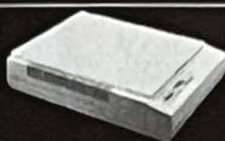
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	Access	Internal	External	
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52MB	1"Hi 17ms (9ms eff)	\$ 219	\$ 289	
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41650N	1.4gb	15ms	FH	CALL	CALL

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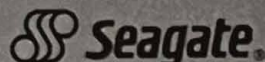
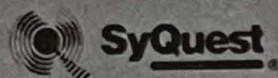
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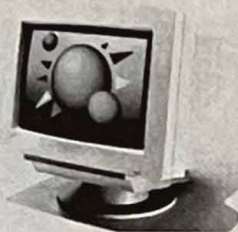
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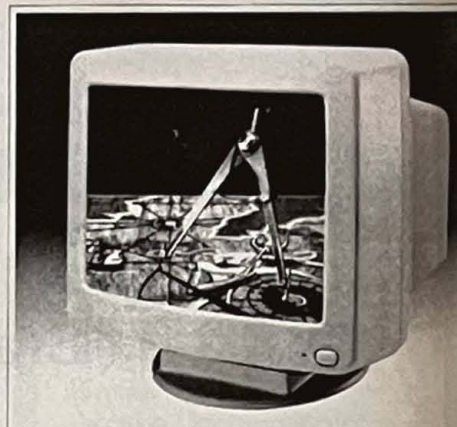


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CD-ROM Disc Caddy 8

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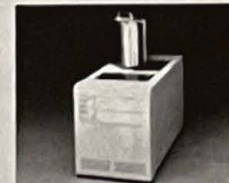
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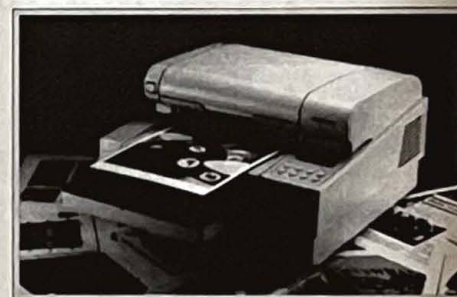
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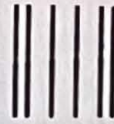
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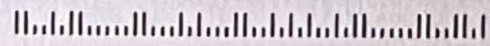
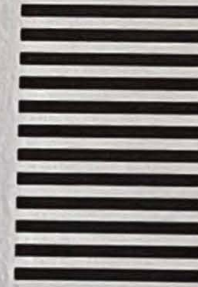
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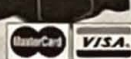
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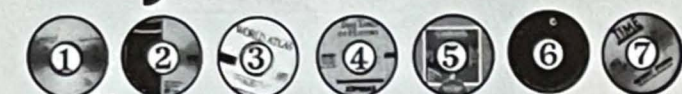


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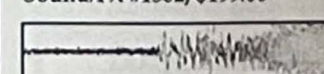
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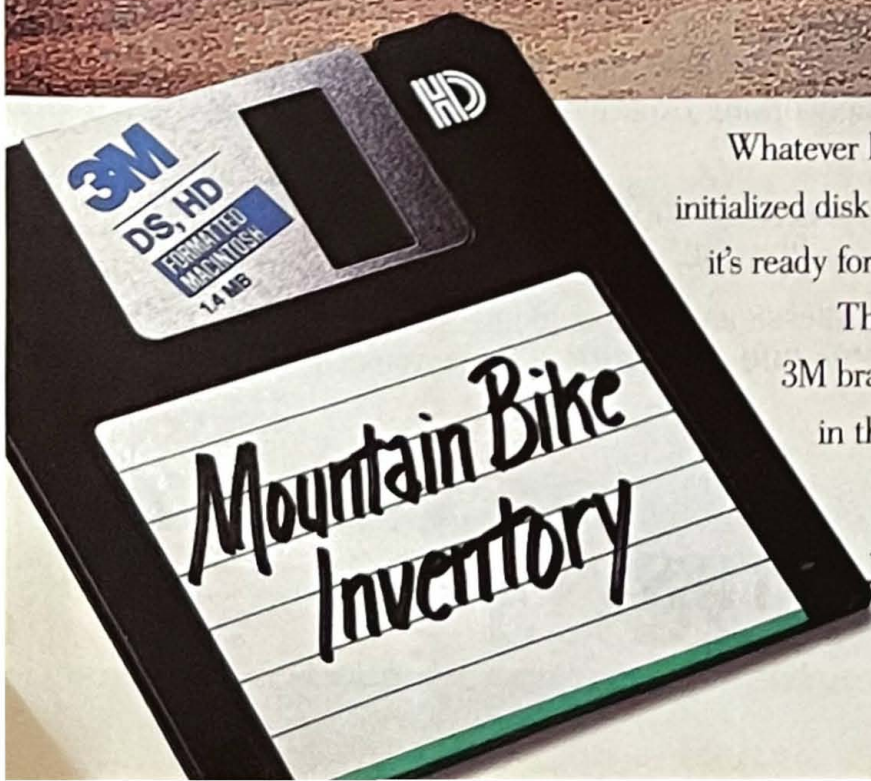
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BUSINESS WATCH

► Industry news
► Market trends



Mac market on the rebound for '92

Results show an upswing in sales

By Jon Swartz

San Francisco — Despite a rash of computer-related layoffs last month and persistent nay-saying among industry pundits, the Mac market appears to be rebounding from a rocky fiscal 1991.

The financial results of most key Mac developers for the last three months of 1991, led by Adobe Systems Inc. and Radius Inc., reflected an upswing in sales.

As expected, profits at Microsoft Corp. and Symantec Corp. rose significantly (see MacWEEK, Jan. 27).

Nonetheless, several companies — notably RasterOps Corp. and Tektronix Inc. — saw profits dip as recession-wary buyers held off making high-end hardware purchases.

"If anything, [the quarter] reaffirmed software's better margins," said Peter Francis, PC software analyst at Dataquest Inc. in San Jose, Calif. "Unlike hardware, it's a market that cannot be commoditized."

James Porter, president of Disk/Trend Inc., a market research company in Mountain View, Calif., said peripherals makers, particularly

disk drive companies, continue to be hit hard by slow PC sales (see story, Page 97).

The numbers reflected a clear disparity in profits for software and hardware companies:

► **Apple's** profits for its first fiscal quarter grew 10 percent to \$166 million, or \$1.36 per share. Sales increased 11 percent to \$1.86 billion, compared with \$1.68 billion for the same quarter a year ago (see MacWEEK, Jan. 20).

► **Microsoft** of Redmond, Wash., reported a 55 percent jump in its second-quarter profits to \$175 million, or 90 cents per share. Sales rose 48 percent to \$682 million.

► **Symantec** said third-quarter profits leaped 74 percent to \$6.1 million, or 26 cents per share. Sales for the Cupertino, Calif., company were \$54.5 million, up 58 percent from the same quarter last year.

► **Adobe**, based in Mountain View, reported fourth-quarter profits were \$13.1 million on sales of \$62.7 million, compared with \$12 million on sales of \$53.4 million in the same

quarter a year ago (see MacWEEK, Jan. 20).

► **Lotus Development Corp.** reported fourth-quarter profits of \$5.8 million, or 14 cents per share, compared with a loss of \$31.6 million in last year's fourth quarter. Sales were \$249.2 million, up 32 percent from a year ago.

See Results, Page 97

This quarter's winners

COMPANY	% CHANGE
Top 5 in profit growth:	
1. Symantec Corp.	74
2. Microsoft Corp.	55
3. Adobe Systems Inc.	29
4. Radius Inc.	22
5. Apple	10
Top 5 in sales growth:	
1. Symantec Corp.	58
2. Microsoft Corp.	48
3. Adobe Systems Inc.	36
4. Radius Inc.	19
5. Apple	11

Despite Windows boom, Mac still lures PC developers

Customers demand cross-platform links

By Jon Swartz

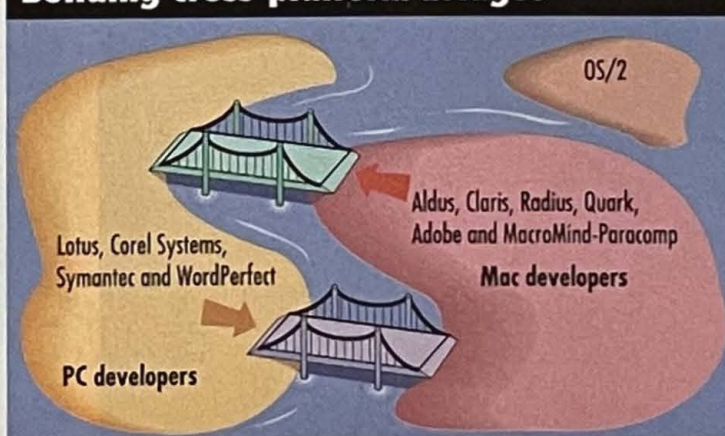
San Francisco — It sounds as unlikely as the Los Angeles Dodgers moving back to Brooklyn, but several PC developers are finding long-ball potential in the Mac.

Despite a boom in Windows 3.0 sales and application development among DOS and longtime Mac vendors last year, many DOS stalwarts continue to design versions of their flagship programs for the Mac:

► **Lotus Development Corp.** began shipping a Mac version of its Lotus 1-2-3 spreadsheet in December and said a Macintosh version of Lotus Notes is in the works. Sources say the company also is working on a Mac version of Ami Pro, its Windows word processing program.

► **WordPerfect Corp.**, which recently released the first Windows version of its word processor, last year gave the Mac version a major update and brought WordPerfect Office, its suite of office automation tools, to the Mac. Just last week the company

Building cross-platform bridges



delivered a QuickTime-capable update to the word processor and disclosed plans for a low-end version due this spring (see MacWEEK, Jan. 27).

► **Symantec Corp.**, whose Q&A database has long been a leader in the DOS market, is readying a Mac version (see MacWEEK, Jan. 6).

► **Corel Systems Corp.** reportedly is working on bringing CorelDraw, its popular PC drawing package, to the Mac.

With an estimated 80 million DOS

machines in use worldwide, the obvious temptation is for developers to overlook the Mac's relatively smaller installed base (6.5 million worldwide) and just do Windows when they want to develop a graphical user interface.

Not so, according to developers and users, who say large companies demand cross-platform applications to help exchange data among different computer systems.

"Almost every Fortune 1,000 See Windows, next page

CYMaK target of RasterOps lawsuit; accused of stealing trade secrets

By April Streeter

Mountain View, Calif. — RasterOps Corp. is suing a small company here for stealing trade secrets.

RasterOps, which racked up \$72.4 million in fiscal 1991 sales, alleges CYMaK Technologies Corp., which employs six people, stole its CMYK color technology. RasterOps, based in Santa Clara, Calif., is seeking unspecified punitive damages.

The suit, filed last month in Santa Clara County Superior Court, claims former RasterOps employee Carl L. Haas illegally passed proprietary product information to CYMaK.

Haas, who owns Selcorp Direct, a San Mateo, Calif.-based distribution company, was a sales and marketing official at RasterOps until he left the company a year ago. Shortly thereafter, he became a member of the CYMaK board.

One of Haas' first acts at CYMaK was to initiate an August 1991 meeting on CYMaK's behalf to propose a joint marketing agreement with Raster-

Ops, Haas said. RasterOps declined.

CYMaK's 32-bit video display buffer board, which converts CMYK (cyan, magenta, yellow, black) to RGB (red, green, blue) color, and an add-on board to adjust displayed images, were shown at last October's Seybold Seminars. The boards have not shipped, however.

RasterOps CEO Kieth Sorenson said his company has invested more than \$1 million and two years to develop and market its CMYK products.

He said the lawsuit was the only way for RasterOps to determine if CYMaK stole confidential marketing and technical trade secrets.

Roger Siminoff, CYMaK vice president of marketing, said the suit "suggests information was stolen and that's just not true."

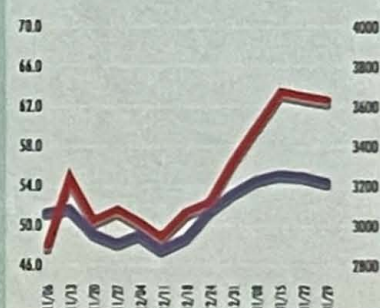
"RasterOps recognizes the importance of CMYK," Siminoff said. "They probably recognize it's critical and want to keep us out [of the CMYK market]." □

StockWatch

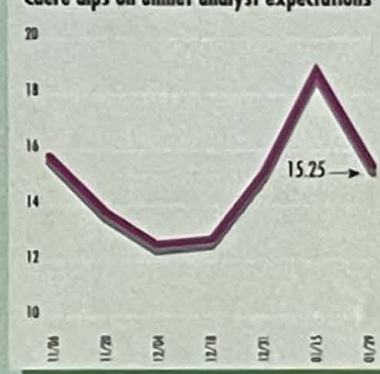
	01/29/92 CLOSE	WEEKLY % CHANGE
Apple	63.25	-0.39
SOFTWARE DEVELOPERS		
Adobe	63.25	0.00
Aldus	33.25	-7.64
Caere	15.25	-15.28
CE Software	6.50	-10.34
Microsoft	124.50	-0.80
Symantec	41.50	-7.26
PERIPHERALS VENDORS		
CMS	3.25	-3.70
HP	60.00	0.42
Mass Micro	1.22	-9.30
QMS	14.50	-3.33
Radius	10.50	-4.55
RasterOps	13.75	-13.39
Sigma	7.50	-3.23
STORAGE		
Conner	18.50	-6.92
Maxtor	8.13	-5.12
Quantum	14.50	-6.45
Seagate	12.88	0.98
INDUSTRY INDICATORS		
DEC	50.63	-5.59
IBM	91.88	-3.92
Motorola	76.00	-4.55
Sun	29.88	-10.15
Dow Jones	3224.96	-0.95

Compiled by Nordby International Inc.

■ Apple stock price 63.25 on 01/29/92
■ Dow Jones average 3224.96 on 01/29/92



Caere dips on unmet analyst expectations



When is more less? In the case of software developer Caere Corp., it's when your fourth-quarter earnings exceed last year's numbers but fall short of analysts' forecasts.

The Los Gatos, Calif., company

reported per-share earnings of 24 cents, up from 20 cents a year ago, but shy of the 31-cent mark predicted by analysts. As a result, Caere's stock declined 15.28 percent to \$15.25 a share.

WordPerfect enjoys bigger profits

By Jon Swartz

Orem, Utah — Seizing Windows of opportunity, WordPerfect Corp. parlayed the popularity of Microsoft Corp.'s graphical interface into record-breaking sales.

The company said the shipment of nearly 400,000 copies of WordPerfect for Windows word processing software in November alone

was chiefly responsible for an 18 percent increase in annual sales.

WordPerfect reported revenues of \$532.6 million for its fiscal year ended Dec. 31. For its fourth quarter, the privately held company posted a profit on sales of \$182 million.

A WordPerfect spokeswoman said the company registered record-breaking sales months

in July (\$45.5 million), October (\$60 million) and November (\$89 million).

Contributing to WordPerfect's big November was the Nov. 7 release of WordPerfect 5.1 for Windows, which so far has shipped 370,000 units. Total sales of WordPerfect for Windows topped \$53 million.

The spokeswoman said WordPerfect tripled its annual Mac sales in 1991 to \$15 million with the introduction of WordPerfect 2.0 for Macintosh and WordPerfect Office 3.01 for Macintosh. □

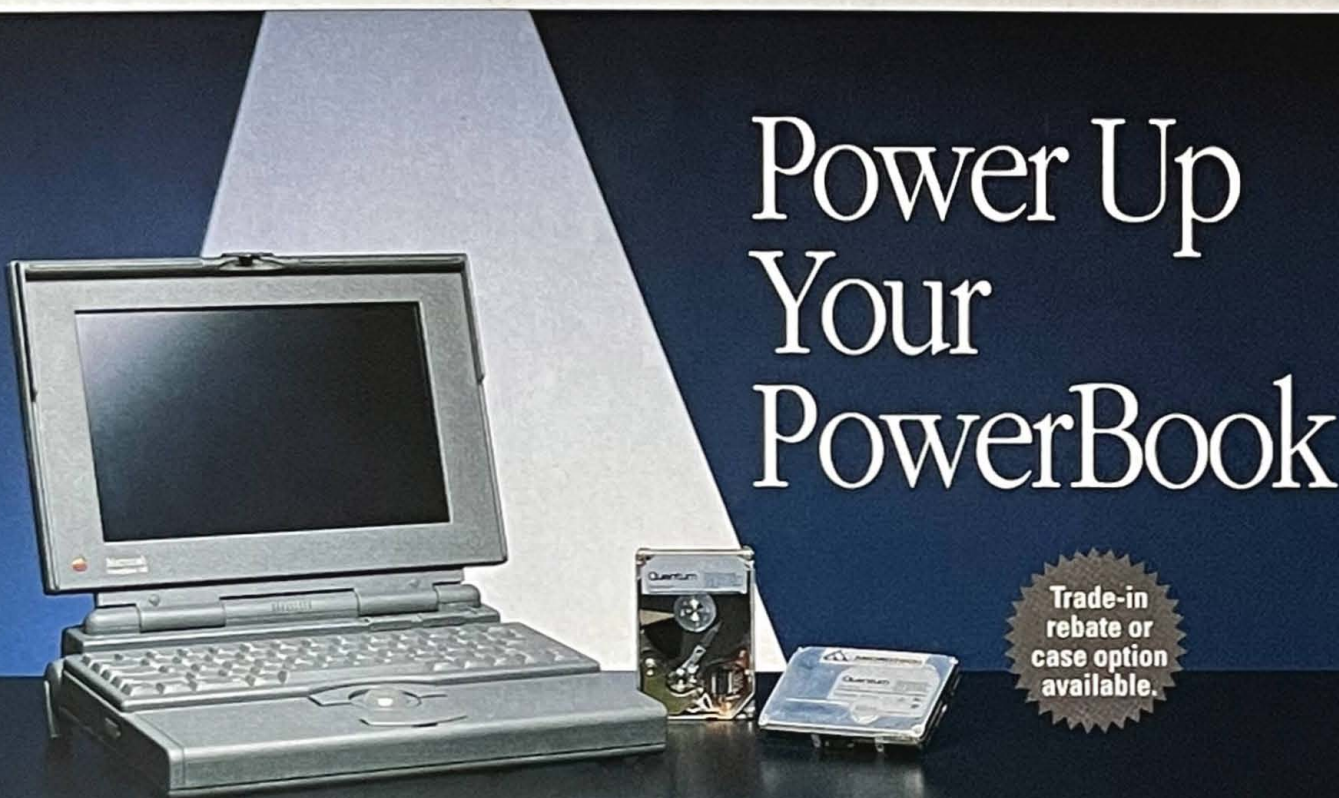
Mouse acquires Animas

Fremont, Calif. — Mouse Systems Corp. is thinking big. The Fremont, Calif., company last month acquired scanner maker Animas Corp. for an undisclosed sum.

Mouse President John Murphy said the acquisition is intended to beef up Mouse's Mac engineering efforts. It first developed optical mice for IBM PCs and compatibles.

Under terms of the deal, Animas, of Ontario, Calif., will become a subsidiary, although its engineering department will continue independent product development, and its current product line will retain the Animas brand name.

Mouse also said it is shipping a \$1,995 package bundling Animas Synergizer-2, a 600-dpi, 24-bit flatbed scanner with Photoshop LE, the limited version of the image-editing software from Adobe Systems Inc. □



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Windows

From previous page

company uses a cross-platform environment," said Rob Adams, Lotus 1-2-3/Mac product manager. "It is critical to offer a brand name for every platform."

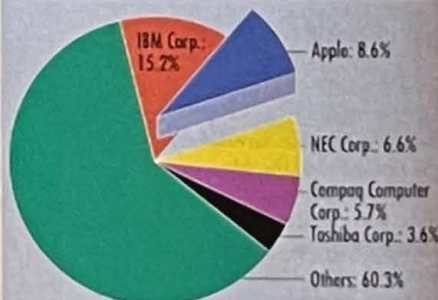
Jonathan Weiner, a Windows and Mac developer in Palo Alto, Calif., said Windows 3.0's shortcomings in multitasking and memory protection have also prompted users to seek other solutions, such as System 7 as well as the forthcoming Windows NT.

Nonetheless, most leading Mac application developers, including Apple's own Claris Corp. subsidiary, continue to write Windows applications. "As long as the PC is half as expensive with twice as much horsepower [as the Mac], most people will choose Windows," said Jeff Smith, senior Windows software engineer at Frame Technology Inc. in San Jose, Calif. □

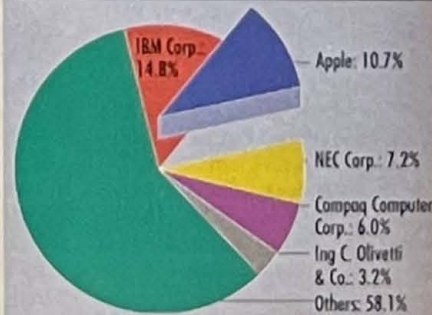
MacWEEK index PC MARKET SHARE

Apple's push to increase its share of the worldwide personal computer market by reducing prices began to bear fruit last year, according to Dataquest Inc.'s 1991 PC market share estimates.

1990 (Total worldwide PC sales: \$49.7 billion)



1991 (Total worldwide PC sales: \$45.7 billion)



IBM buying stake in Groupe Bull

By Jon Swartz

New York — IBM Corp. last week agreed to buy a \$100 million stake in Groupe Bull and immediately included the French-government-owned computer maker in its PowerPC plans.

The stake amounts to 5 percent to 10 percent of Bull's stock, according to Bull. NEC

Corp., Japan's largest personal computer maker, already owns 5 percent of Bull.

Under the agreement, IBM will share its RISC (reduced instruction set computing) technology with Bull. Last summer IBM agreed to collaborate with Motorola Inc. and Apple in developing the PowerPC, a new family of single-chip processors designed to bring

IBM's RISC architecture to systems ranging from handheld devices to servers.

Bull, which has posted huge losses for several years, has been seeking a capital infusion, in addition to access to RISC technology.

IBM also will buy circuit boards made by Bull for use in IBM products, as well as resell laptop computers from Zenith Data Systems, a Bull subsidiary in Buffalo Grove, Ill.

In a prepared statement, Bull Chairman Francis Lorentz said the computer giants would remain competitors despite the agreement.

The announcement followed weeks of speculation about a potential partnership between Bull and either IBM or Hewlett-Packard Co., which is developing its own RISC technology.

According to a report in the French magazine *Le Nouvel Observateur*, IBM's campaign for Bull included a concerted effort by elected officials with IBM plants and facilities in their districts. An HP spokeswoman called the pact "a decision made by politicians rather than by businessmen." □

Results

From Page 95

► **Motorola Inc.** said fourth-quarter earnings rose 16 percent to \$126 million, or 96 cents per share. The Schaumburg, Ill.-based company, whose sales inched up 4 percent to \$3.04 billion, was one of a handful of hardware companies with good news for stockholders.

► **Radius**, based in San Jose, reported a 22 percent jump in quarterly profits to a record \$2.2 million.

► **RasterOps** of Santa Clara, Calif., said profits slipped from an all-time high of \$1.9 million in fourth-quarter 1991 to \$538,000 in its second fiscal quarter of 1992.

► **Aldus Corp.** of Seattle, bucking the money-making trend among software companies, reported a 17 percent drop in quarterly profits to \$5.5 million, or 35 cents a share. Sales rose 10 percent to \$40.3 million, however.

► **Tektronix's** profits fell 31 percent to \$8.1 million, or 27 cents per share, in its second quarter. Sales for the Beaverton, Ore., hardware company slipped 2 percent to \$303 million.

► **IBM Corp.**, meanwhile, in the most dramatic proof of hardware companies' hard times, lost \$1.38 billion for its fourth quarter and endured the first annual loss in its 81-year history, \$564 million. □

Profits, revenues down for storage companies

By Dartanyan L. Brown

San Francisco — A crippling combination of intense price competition, lackluster PC sales and commoditization drove down revenues and profits for storage companies.

With the exception of SyQuest Technology Inc., it was generally a dismal period for most major manufacturers.

► **Conner Peripherals Inc.** of San Jose, Calif., said fourth-quarter profits plummeted 72 percent to \$13.3 million, or 23 cents per share, on sales of \$417 million.

► **Quantum Corp.** of Milpitas, Calif., reported third-quarter sales rose 24 percent to \$287 million, but profits fell to \$9.4 million from the \$18 million posted in the same quarter a year ago.

► **Maxtor Corp.**, based in San Jose, squeezed out a \$4 million profit, compared with a \$9.3 million loss in the same quarter last year. Sales remained flat at \$252.9 million, however.

► **Seagate Technology Inc.** bounced back from a \$47.8 million loss in its previous quarter, but still was in the red. The Scotts Valley, Calif., company lost \$11 million, or 17 cents per share, on slightly higher sales of \$695.1 million.

► **SyQuest**, a maker of removable Winchester disk cartridges and drives, posted record profits of \$2.3 million, or 22 cents per share, compared with \$1.5 million, or 16 cents per share, in the same quarter a year ago.

The Fremont, Calif., company's sales jumped 63 percent to \$39.4 million. □

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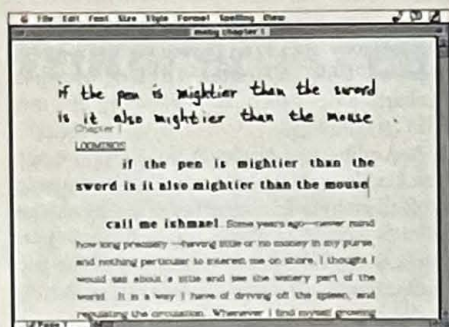
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Nagel

From Page 1

ing for and displaying a particular document. Casper does not take dictation, nor is it likely to any time in the foreseeable future, Nagel said.

Although it wasn't part of last week's demo, Casper also has an output mode: Speaking in an

Rosetta, Apple's gesture- and handwriting-recognition software, allows users to navigate through the Finder and enter text in programs like MacWrite II, with just a stylus.

intelligible, human-sounding voice based on sampled speech, it can read back the contents of a file, according to Nagel. The point is not to make the Mac seem human, he said, but rather to give users a way to get feedback without being physically in front of the machine.

The basic voice-recognition technology is already in place, but Casper has problems understanding the nuances of human speech — "the interruptions and 'ums' and 'ahs' and indirect references," Nagel said.

The technology currently requires about

1 Mbyte of RAM, but Apple hopes to cut that by more than half before shipping a voice extension, sources said.

Localizing Casper for all the languages used in the markets Apple now serves will be a huge challenge for the company, Nagel said.

► **Mac penmanship.** Apple believes that pen input will be as important to the future of its interface as voice recognition, Nagel said.

The company's pen-input technology, code-named Rosetta, lets users control the Mac's interface with a stylus: Putting a check mark on a file opens it, dragging the pen across the screen scrolls through a window and crossing out a word deletes it.

Rosetta also can be used to enter text by recognizing words and converting them to type. Currently the system must be trained to recognize each user's handwriting. Ultimately it should be writer-independent and writer-adaptive, Nagel said.

Unlike Casper, Rosetta doesn't require special hardware, but it currently takes about 4 Mbytes of RAM.

"I think it's OK to deliver [pen and voice] when the technology is ready for use," Nagel said when asked when these new technologies might appear on Macs. "What I don't think is OK is delivering it just because it's neat." He declined to specify any target dates. □

Price cuts

From Page 1

with these price cuts," said Ken Krich, president of ComputerWare Inc. of Palo Alto, Calif.

"This is a very aggressive attempt on Apple's part to stay competitive with the aggressive pricing of the PC clones," said Charles Finnie, research analyst at Volpe, Welty & Co., a San Francisco investment-banking company.

Apple refused to comment.

Apple also will release two new PowerBook 100 configurations next week: a 4/40 without a floppy drive for \$2,399 and a 4/40 with an external floppy drive for \$2,599.

The company also has decided to cut pricing for the 68000-based Classic, as well as to continue an incentive program.

Customers hoping to see street prices fall in proportion to this week's changes in Apple's retail prices may be disappointed, however. Because planned cuts in dealer prices won't match reductions in Apple's suggested retail price list, dealers who want to preserve their margins won't be able to cut prices as drastically as the Apple announcement might suggest. For example, the Mac IIcx 5/80 list price will fall 33 percent, but dealer pricing will drop only about 22 percent. The Mac IIcx 5/80 list price will drop about 34 percent, and dealer pricing will drop about 26 percent.

The dealer price for the lame-duck Mac IIcx will remain unchanged, but its suggested retail price will drop about 28 percent to \$5,800.

The logic board upgrade to turn the Mac IIcx into a Quadra 700 will ship this week for \$3,499 with exchange of the original logic board. □

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Apple lowers low end

PRODUCT	OLD PRICE	NEW PRICE	EST. STREET PRICE
Mac IIcx 5/80	\$4,569	\$2,999	\$2,499
Mac LC 4/40	\$2,649	\$1,699	\$1,499
Mac Classic II 4/40	\$2,049	\$1,699	\$1,499
Mac Classic 2/40	\$1,499	\$1,349	\$999
Mac Classic 4/40	\$1,649	\$1,499	\$1,149
Apple StyleWriter	\$599	\$399	\$349

Windows

From Page 1

Some analysts believe that the Macintosh will remain a vital development platform for new kinds of applications nonetheless.

"Larger developers are more interested in economics, while small developers are more interested in innovation," said Esther Dyson, editor of Release 1.0 in New York. "The Mac will still be a platform for innovative, creative development."

The rapid rise in top-flight Windows programs has several users thinking twice before buying strictly Mac for a graphical user interface program, according to several interviewed.

Eric Weidl, a computer analyst at the University of Chicago, said that although the Mac is popular on campus, its installed base remained flat at 7,500 while PC sales grew 25 percent last year to 2,000 because of Windows.

"The superiority of Microsoft's Windows [business applications] makes it difficult for a lot of people to ignore Windows and continue to buy Mac," Weidl said. "And that creates a cyclical situation. The more Windows sales, the more development, etc."

One large multivendor user in Southern California, for example, is debating whether to convert to Windows-only software and reduce its Macintosh installed base.

Still, most Fortune 1,000 companies are demanding cross-platform software to facilitate the exchange of data between different computer systems, according to Paul Stroube, Lotus 1-2-3 for Windows product manager.

Consequently, developers such as Microsoft

and Claris are intensifying efforts to design core code that will allow them to bring cross-platform programs to market faster.

Currently, Excel, PowerPoint and Project have core engines, and the company is working on core code for other products such as Word, according to Pete Higgins, vice president of analysis business unit at Microsoft.

"With Excel 3.0 it was a 12- to 16-week difference between the two. With Excel 4.0 we hope to reduce it to six to eight weeks," Higgins said. □

Microsoft freshens up Office suite

Redmond, Wash. — Microsoft Corp. last week announced an upgrade to the suite of products that make up Microsoft Office.

Version 2.0 of Microsoft Office for the Macintosh now includes the newly released Microsoft Word 5.0 and Microsoft Excel 3.0.

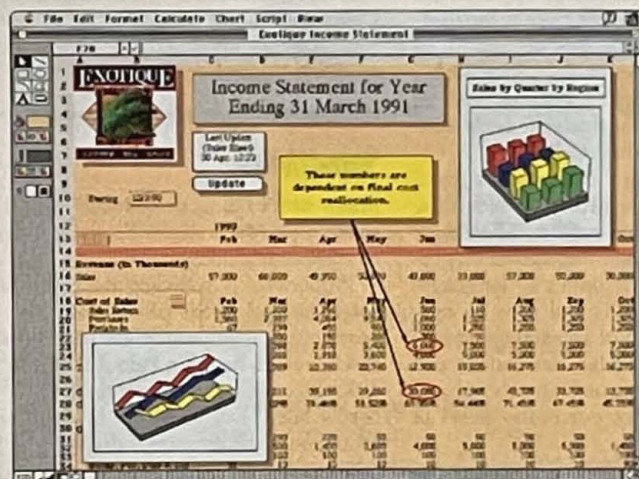
The \$750 boxed package retains Version 2.01 of Microsoft PowerPoint and a client

license for Microsoft Mail Version 3.0.

Registered users of Microsoft Office 1.0 will be offered upgrades to each module of the bundle separately. An upgrade of Microsoft Office CD-ROM is not yet available, Microsoft said.

Microsoft Corp. is based at 1 Microsoft Way, Redmond, Wash. 98052-6399. Phone (206) 882-8080; fax (206) 883-8101. □

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Developers jump on Windows bandwagon

Several major developers are providing examples of the rise of Windows and its effect on Mac productivity applications.

► Adobe Systems Inc.'s forthcoming Illustrator 4.0 for Windows will include edit and preview, the ability to box an area and then zoom in, and grids. But Jonathan Seybold, publisher of the Seybold Report on Publishing Systems in Media, Pa., cautioned that Adobe's next Mac version of Illustrator would probably "leapfrog" the capabilities of Illustrator 4.0.

► Microsoft Corp., not surprisingly, has added several features to its Windows versions of Word and Excel that are not available on the Mac.

Word 2.0 for Windows, for example, includes a customizable ribbon tool bar, Word Basic and charting capabilities, none of which are available on Word 5.0 for the Macintosh.

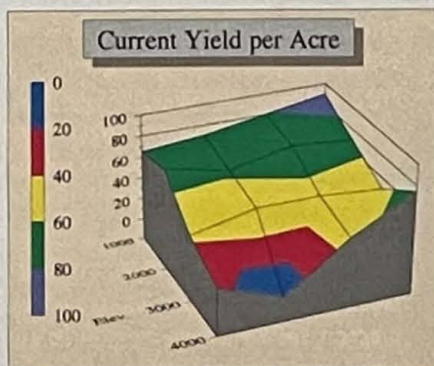
► Lotus Development Corp. last year released Windows versions of its Lotus Notes and Ami Pro products, but has yet to deliver Mac versions of either product.

Meanwhile, Lotus 1-2-3 for Windows includes SmartIcons, which invoke macros at the push of a button, and Solver, a numerical-analysis tool. Neither are available on the spreadsheet's Mac counterpart.

► Claris Corp. CEO Dan Eilers repeatedly has said the Apple software subsidiary's development efforts will be based strictly on economic and technical considerations. A large chunk of Claris' development efforts are in Windows technology, and the company plans on introducing three Windows products by the end of this year, he said. — By Jon Swartz

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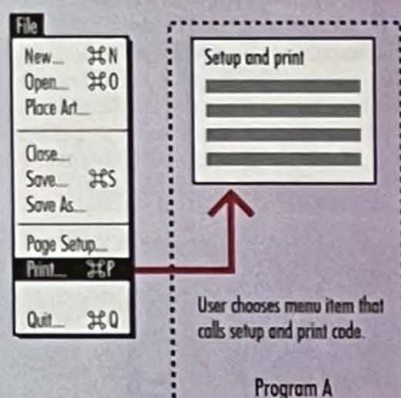
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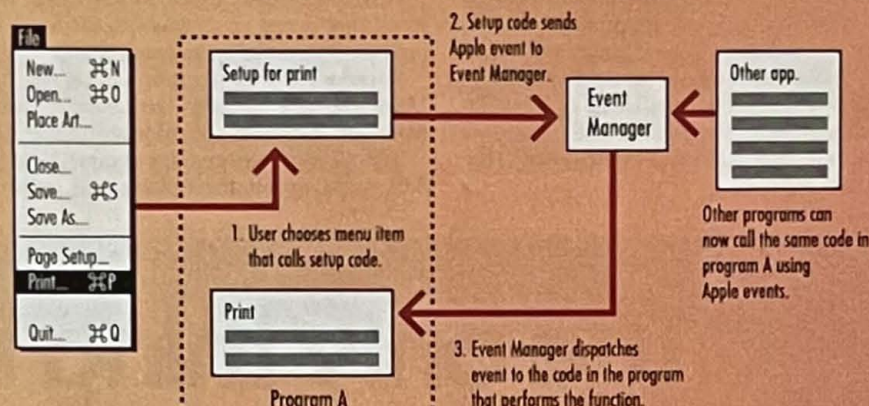
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Factoring out code to get ready for AppleScript

Today: Menus call code directly



A scripting-aware application: Apple events link menus to program fragments



AppleScript

From Page 1

to create composite programs tailored to their needs.

In-house corporate developers, for instance, could assemble a custom executive information system by writing a script that called functions in spreadsheet, database and project-management applications. CAD users could integrate database and spreadsheet applications to generate bills of materials.

At the "scripting Quickstart" session held after last month's Macworld Expo here, Apple reportedly encouraged developers to make their applications scripting-aware as soon as possible by incorporating support for the company's Open Scripting Architecture (OSA).

The specification, announced last year (see MacWEEK, June 4, 1991) defines a standard set of hooks that application developers can add to allow different scripting and macro systems, not just AppleScript, to control their programs. Developers need to

build extensive support for Apple events into their applications, detaching the user interface from the program's code, to fully comply with the OSA.

Because of the standard, users won't have to wait for AppleScript to control applications. They will be able to turn to Frontier, the user-scripting environment released last month by UserLand Software Inc. of Palo Alto, Calif., as well as to less complex systems such as ControlTower, due later this year from Simple Software of Mill Valley, Calif.

AppleScript, currently in pre-alpha form, is very different from Frontier, according to developers who have seen it. The Apple software uses a language not unlike HyperCard's HyperTalk; Frontier's language, UserTalk, is more like C and uses an outline structure rather than a straight-text listing. Frontier can remember data values and settings between sessions in its object database, an ability not currently found in AppleScript.

Most important to non-technical users, AppleScript will provide a "watch me"

recorder that will allow point-and-click script generation. Frontier currently does not include such a feature.

AppleScript has an adaptable syntax, making it localizable for different languages, according to Steve Weyl, manager of Apple's Developer Tools Engineering group. "You can write an application in one syntax and modify it in another," he said. □

SuperMac

From Page 1

prices won't fall as dramatically as list prices since SuperMac's dealer discount is dropping by a lower percentage.

"SuperMac is reducing the delta between list price and street price," said Ken Krich, president of ComputerWare Inc., a computer reseller chain based in Palo Alto, Calif.

Krich said that the street price of the Thunder/24 board will likely fall by \$400 or \$500, even though the list price is dropping by \$1,500.

Steve Blank, SuperMac vice president of marketing, said his company hopes increased

Agents

From Page 1

a person speaks, he added, so it can learn that what one user refers to as a document, for example, is identical to what another user calls a file.

That is the kind of task agents will handle, Nagel said.

Newton's primary function, according to sources, will be to extract data that the user needs from other computers. It will be capable of sifting through information as it becomes available on remote systems, including voice and electronic-mail systems, to which the device can connect. Agents will filter data automatically, on the basis of criteria defined by the user, and alert the user when it locates desired items.

Agents also will be able to recognize patterns in users' work and anticipate what they want to do next, Nagel said. If, for instance, users search for news stories on CompuServe every time they access an information service, the agent will ask if they want that search performed every time they connect to that service.

All this will be dependent on wireless communications, Nagel said, so that the agents will have a way to access other computers and services while on the road. □

sales will offset lower margins. "It's the Apple market share strategy without the layoffs," he said. "We've been frustrated by the perception that if you win the Lotto, SuperMac's products are the best buy," Blank added.

SuperMac's strategy also involves divesting itself of its software products. Sources said the company is negotiating to sell PixelPaint Professional to MacroMind-Paracomp Inc. of San Francisco.

SuperMac's reductions could affect pricing throughout the high-end display market. "SuperMac is trying to stick it to its competitors, but I imagine companies like RasterOps [Corp.] will respond with some price cuts of their own," Davis added.

RasterOps said it has no immediate price reductions. However, a spokeswoman said, RasterOps is about to release a "very competitively priced" accelerated 24-bit board.

Industry sources said SuperMac's price cuts are part of a company strategy to go public in April or May. SuperMac's Blank would not comment on the possibility, but he said his company is in strong financial shape. "We have overhead and expenses under control. We're a lean-and-mean company right now," he said. □

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SuperMac price cuts

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SuperMac Thunder/24	\$3,499	\$4,999
Spectrum/24 PDQ Plus	\$2,399	\$3,999
Spectrum/8-24	\$999	\$1,399
Spectrum/8 Series III	\$599	\$799
Digital video cards		
VideoSpigot Pro NuBus	\$1,599	\$1,999
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SuperMatch 20 Color	\$1,999	\$2,800
SuperMatch 20 Dual Mode Trinitron	\$2,999	\$4,200

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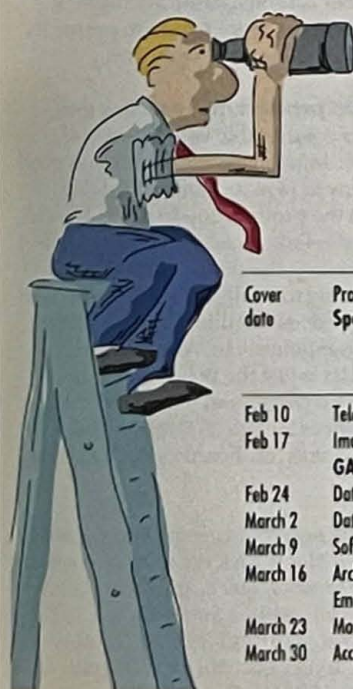
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Looking at all the channels

Consumer confidence in the future of the economy may be in the toilet, but the people who run Apple have no shortage of confidence in consumers. In fact, there's every indication that the company has targeted this summer as the proper season to jump

into the consumer-electronics business.

Not surprisingly, the first offering in this channel will be the 68000-based Mac Classic bundled with some kind of productivity software. While no one is saying for sure, the logical choice would be ClarisWorks. This is a move that would be sure to rekindle all man-

ner of unseemly controversy in the third-party applications-development community.

The process of selecting the channel through which to move those thousands of Classic boxes has yet to be completed, but insiders speculate that Sears, which is where America may still shop even though it doesn't

have everything anymore, has the inside track. If such is the case, it is probably one of the few bright spots in the beleaguered retailer's future. Then again, at the beginning of the last decade, Apple authorized Macy's to move its iron, and look what happened to Macy's.

Gotta have it. In the category of things that muddy the waters, the Knife reports that Ingram Micro intends to sign a purchasing agreement with the Mac Consultants Network (MCN) to let the consultants buy products from the distributor for resale to their customers.

Perhaps to some Mac consultants, just the prospect of providing the client with the odd surge suppressor or copy of WordPerfect Mac would be fulfillment enough. Other Mac consultants, however, want more, much more. These are the consultants who will be most happy if Ingram gets Apple's nod to supply Mac hardware to value-added resellers. Then, as if by magic, MCN members will be offered the opportunity to achieve VAR status effortlessly. Merisel and Tech Data also are in the running, but sources tell the Knife that Ingram has the inside track. A final decision on these plans is expected this week, with a formal rollout in March.

Only in Japan. Word has reached the Knife that Sony is putting the finishing touches on the CD-ROM drive that is destined to appear in a future consumer product from Apple. The truly interesting thing about this drive, which plays 3.5-inch discs, is average access times in the lab that rival moderately priced hard disks. Engineers were able to achieve a 600-Mbyte capacity on the small discs by reducing the level of data redundancy that has been necessary to ensure performance of earlier drives.

Equal latitude. You have to wonder what Apple thinks about Quorum Software Systems Inc.'s recent announcement of Quorum Latitude and Quorum Equal, products that allow System 7-ready, 32-bit-clean Mac applications to be converted relatively easily to run on one of several Unix workstations.

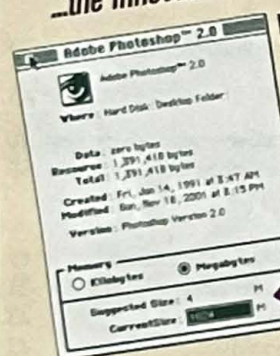
The Knife reports that Quorum engineers are at this moment developing a similar product that will allow third-party software developers to port their applications to both Windows 3.0 and Windows NT. If the best legal observers are wrong and Apple loses its infringement lawsuit against Microsoft, it would have all the more reason to pursue its rumored plans to buy the company.

The right product moves. Now that everyone is comfortable with the idea of much lower Mac prices, it's probably as good a time as any to plan for some scheduled changes in the product lineup itself. After all, forewarned is forearmed. In August, Apple is planning to drop the floppy-based IIfx, so those planning to configure IIfx systems with third-party drives should act now to avoid possible disappointment. And those who think the IIfx is just the ticket should be aware that a replacement model is due later this year. Specs include a 33-MHz '030, Ethernet, three slots, on-board video, FPU and cache slot. □

While Bill and Hillary may only dream of possessing a MacWEEK mug, you can actually own the dream if you've got the right inside stuff. The Knife is open for business at (415) 243-3500, fax (415) 243-3650, MCI (Mac-theKnife), AppleLink (MacWEEK) and CompuServe/ZiffNet/Zinac.

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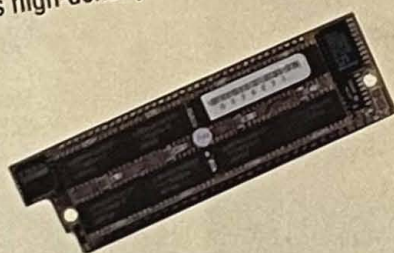
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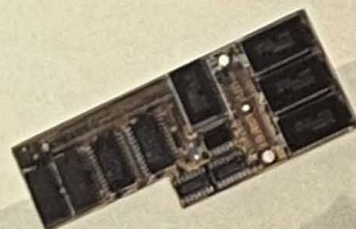
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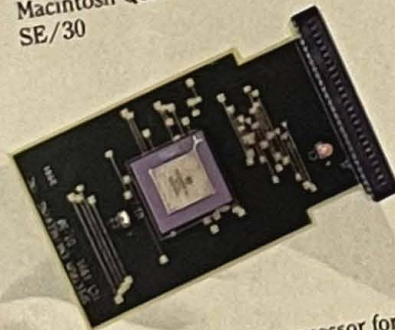
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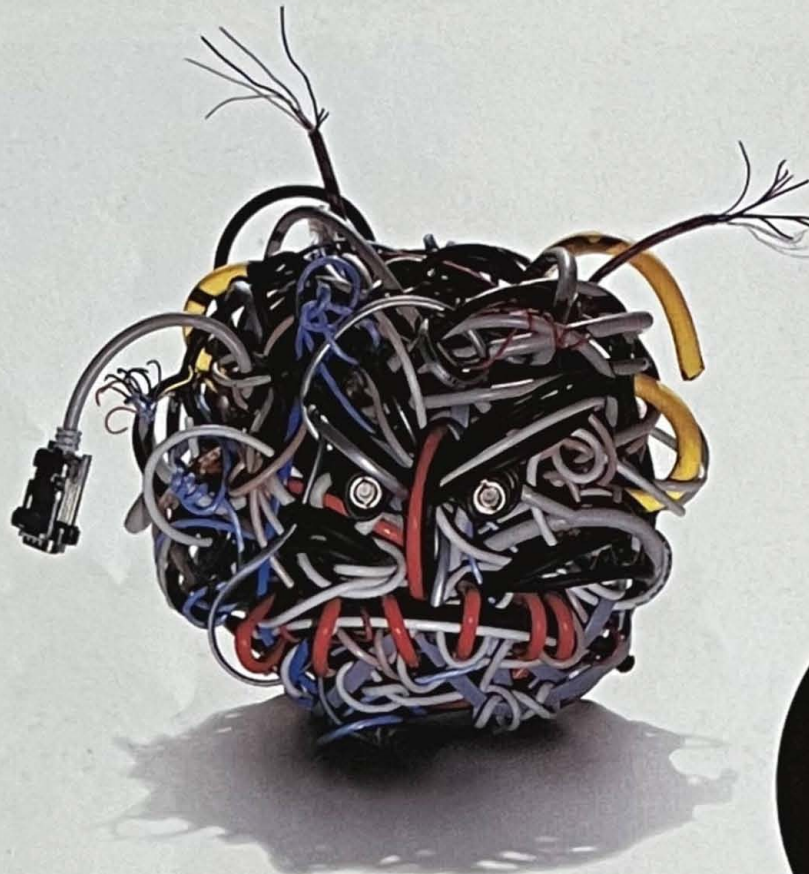
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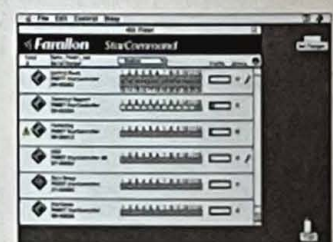
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